

# SYGEF Plus

Piping systems in PVDF-HP



# SYGEF Plus – System Specification

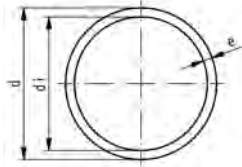
<b>Material</b>	High Purity Polyvinylidene fluoride (PVDF HP)
Colour	Virgin material, opaque
Density	~1.78 g/cm <sup>3</sup> (ISO 1183 / ASTM D 792)
Surface tension	30–35 mJ/m <sup>2</sup>
Thermal expansion coefficient	0.12–0.18 mm/mK (DIN 53752)
E-modulus	≥1700 N/mm <sup>2</sup> (EN ISO 527 / ASTM D 790)
Thermal conductivity	0.19 W/mK (EN12664)
Surface resistivity	5 x 10 <sup>14</sup> Ωcm (IEC 60093)
<b>Dimension</b>	d20 (½") – d450 (18") in accordance to ISO 10931
<b>Pressure rating</b>	Pipes/fittings: PN16 (d20 – d315), PN10 (d90 – d450) Valves: separate specification
<b>Temperature rating</b>	From –20 °C to +140 °C (–4 °F to +284 °F)
<b>Production</b>	Fittings/diaphragm valves: injection moulded Pipes: extruded Produced under clean room ISO 14644-1 Class 7 (U.S. Fed. Std. 209E Class 10'000) conditions. Subsequent assembling, quality inspection and cleaning is carried out using 18 MΩ pure water under clean room ISO 14644-1 Class 5-6 (U.S. Fed. Std. 209E Class 100-1000) conditions.
<b>Surface finish compliant to Semi F57</b>	Inner surface (PN10/SDR33): ≤d225 Ra ≤0.2µm (8µin) / >d225 Ra ≤0.3µm (12µin) / ≥d280 Ra ≤0.4µm (16µin) / ≥d355 Ra ≤0.65µm (26µin) for injection moulded and extruded components
<b>Marking</b>	All components are embossed with a permanent identification during the production process to ensure full traceability. Lot No Material Dimension Pressure Rating
<b>Testing and inspection (ISO 10931)</b>	Inclusions Visual inspection Surface finish Dimension tolerance Pressure testing Periodic leachout per SEMI F40/F57
<b>Approvals/conformance</b>	DIBt ASME BPE FDA CFR 21 177.2510 USP 25 class VI (physiological non-toxic) SEMI F57 FM-4910 listing
<b>Welding technology</b>	BCF Plus, bead and crevice free fusion, size d20 (½") – d110 (4") IR Plus, infrared fusion (DVS 2207-6), size d20 (½") – d450 (18")
<b>Documentation*</b>	Certificate of Conformance with FDA, USP EN 10204 2.2 EN 10204 3.1
<b>Packing</b>	Pipes capped and each component double bagged in an specified inner bag and an outer bag under clean room ISO 14644-1 Class 6 (U.S. Fed. Std. 209E Class 1000) conditions.
<b>Labeling</b>	Brand Name Product Description Code Number Material Dimension
<b>Main applications</b>	Uses include delivery of ultrapure water in the semiconductor/electronic industry, pharmaceutical grade purified water (WFI/PW) and analytical DI water to highest purity requirements. A wide range of sanitisation methods is suitable such as Ozone, hot water or steam.

\* On request

# Table of contents

Pipes	284
Fittings	285
Valves SYGEF Plus	322

# Pipes

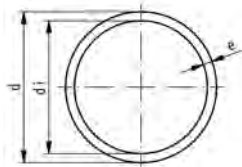


## SYGEF Plus pipe SDR33/PN10

### Model:

- Material: PVDF-HP
- Length: Lengths of 5 m

d (mm)	PN (bar)	FM	Code	Weight (kg/m)	e (mm)	di (mm)
90	10	BCF, IR	<b>175 481 665</b>	1.480	2.8	84.4
110	10	BCF, IR	<b>175 481 666</b>	2.200	3.4	103.2
125	10	IR	<b>175 481 667</b>	2.840	3.9	117.2
140	10	IR	<b>175 481 673</b>	3.520	4.3	131.4
160	10	IR	<b>175 481 668</b>	4.540	4.9	150.2
200	10	IR	<b>175 481 669</b>	7.190	6.2	187.6
225	10	IR	<b>175 481 670</b>	8.950	6.9	211.2
250	10	IR	<b>175 481 671</b>	11.100	7.7	234.6
280	10	IR	<b>175 481 656</b>	13.900	8.6	262.8
315	10	IR	<b>175 481 674</b>	17.600	9.7	295.6
355	10	IR	<b>175 481 657</b>	20.960	10.9	333.2
400	10	IR	<b>175 481 658</b>	26.650	12.3	375.4
450	10	IR	<b>175 481 659</b>	33.640	13.8	422.4



## SYGEF Plus pipe SDR21/PN16

### Model:

- Material: PVDF-HP
- Length: Lengths of 5 m

d (mm)	PN (bar)	FM	Code	Weight (kg/m)	e (mm)	di (mm)
16	16	BCF, IR	<b>175 481 202</b>	0.171	1.9	12.2
20	16	BCF, IR	<b>175 481 203</b>	0.210	1.9	16.2
25	16	BCF, IR	<b>175 481 204</b>	0.269	1.9	21.2
32	16	BCF, IR	<b>175 481 205</b>	0.435	2.4	27.2
40	16	BCF, IR	<b>175 481 206</b>	0.563	2.4	35.2
50	16	BCF, IR	<b>175 481 207</b>	0.850	3.0	44.0
63	16	BCF, IR	<b>175 481 208</b>	1.090	3.0	57.0
75	16	BCF, IR	<b>175 481 209</b>	1.550	3.6	67.8
90	16	BCF, IR	<b>175 481 210</b>	2.230	4.3	81.4
110	16	BCF, IR	<b>175 481 211</b>	3.330	5.3	99.4
140	16	IR	<b>175 481 213</b>	5.312	6.7	126.6
160	16	IR	<b>175 481 214</b>	6.961	7.7	144.6
200	16	IR	<b>175 481 216</b>	10.862	9.6	180.8
225	16	IR	<b>175 481 217</b>	13.700	10.8	202.6
250	16	IR	<b>175 481 218</b>	17.150	11.9	226.2
280	16	IR	<b>175 481 219</b>	21.660	13.4	253.2
315	16	IR	<b>175 481 220</b>	27.220	15.0	285.0

# Fittings

## Butt fusion fittings

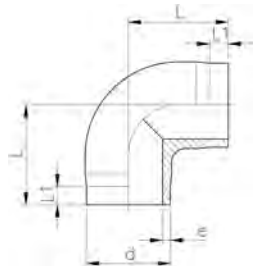
### SYGEF Plus elbow 90° SDR21/PN16



**Model:**

- Material: PVDF-HP

d (mm)	PN (bar)	FM	Code	Weight (kg)	e (mm)	L (mm)	L1 (mm)
20	16	BCF, IR	<b>735 108 631</b>	0.026	1.9	38	25
25	16	BCF, IR	<b>735 108 632</b>	0.033	1.9	42	26
32	16	BCF, IR	<b>735 108 633</b>	0.056	2.4	46	26
40	16	BCF, IR	<b>735 108 634</b>	0.075	2.4	51	28
50	16	BCF, IR	<b>735 108 635</b>	0.128	3.0	58	28
63	16	BCF, IR	<b>735 108 636</b>	0.211	3.0	66	28



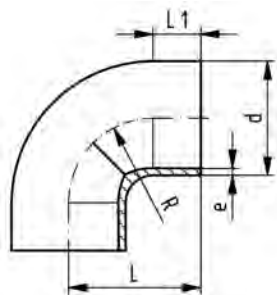
### SYGEF Plus bend 90° SDR21/PN16



**Model:**

- Material: PVDF-HP

d (mm)	PN (bar)	FM	Code	Weight (kg)	e (mm)	L (mm)	L1 (mm)	R (mm)
20	16	BCF, IR	<b>735 018 731</b>	0.024	1.9	38	23	15
25	16	BCF, IR	<b>735 018 732</b>	0.022	1.9	42	23	19
32	16	BCF, IR	<b>735 018 733</b>	0.038	2.4	46	22	24
40	16	BCF, IR	<b>735 018 734</b>	0.055	2.4	51	21	30
50	16	BCF, IR	<b>735 018 735</b>	0.095	3.0	58	21	37
63	16	BCF, IR	<b>735 018 736</b>	0.138	3.0	66	21	45
75	16	BCF, IR	<b>735 018 737</b>	0.309	3.6	75	23	62
90	16	BCF, IR	<b>735 018 738</b>	0.490	4.3	90	23	77
110	16	BCF, IR	<b>735 018 739</b>	0.793	5.3	110	23	98
140	16	IR	<b>735 018 741</b>	1.665	6.7	140	33	121
160	16	IR	<b>735 018 742</b>	2.346	7.7	160	33	141
200	16	IR	<b>735 018 744</b>	4.104	9.6	200	33	181
225	16	IR	<b>735 018 745</b>	5.859	10.8	220	33	200
250	16	IR	<b>735 018 746</b>	6.536	11.9	254	48	232
280	16	IR	<b>735 018 747</b>	9.182	13.4	283	48	262
315	16	IR	<b>735 018 748</b>	13.031	15.0	321	48	297

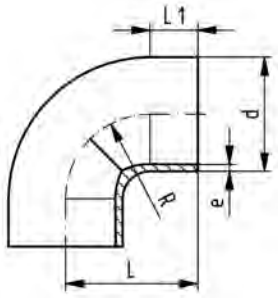




### SYGEF Plus bend 90° SDR33/PN10

**Model:**

- Material: PVDF-HP



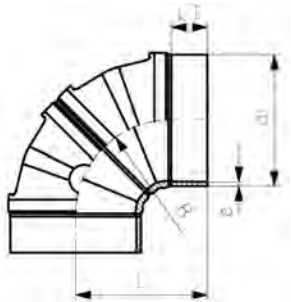
d (mm)	PN (bar)	FM	Code	Weight (kg)	e (mm)	L (mm)	L1 (mm)	R (mm)
90	10	BCF, IR	<b>735 018 538</b>	0.391	2.8	90	23	77
110	10	BCF, IR	<b>735 018 539</b>	0.577	3.4	110	23	98
125	10	IR	<b>735 018 540</b>	0.874	3.9	125	28	112
140	10	IR	<b>735 018 541</b>	1.325	4.3	140	33	121
160	10	IR	<b>735 018 542</b>	1.831	4.9	160	33	141
200	10	IR	<b>735 018 544</b>	3.244	6.2	200	33	181
225	10	IR	<b>735 018 545</b>	4.266	6.9	220	33	200
250	10	IR	<b>735 018 546</b>	4.304	7.7	254	48	232
280	10	IR	<b>735 018 547</b>	6.370	8.6	283	48	262
315	10	IR	<b>735 018 548</b>	9.032	9.7	321	48	297



### SYGEF Plus bend 90° SDR33/PN10

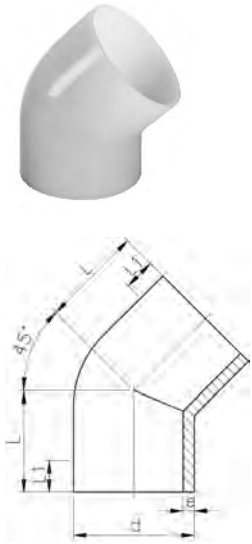
**Model:**

- Material: PVDF-HP



d (mm)	PN (bar)	FM	Code	Weight (kg)	e (mm)	L (mm)	L1 (mm)	R (mm)
355	10	IR	<b>735 018 549</b>	18.072	10.9	359	100	257
400	10	IR	<b>735 018 550</b>	23.985	12.3	392	100	290
450	10	IR	<b>735 018 551</b>	32.047	13.8	430	100	328

### SYGEF Plus elbow 45° SDR21/PN16



**Model:**

- Material: PVDF-HP

d (mm)	PN (bar)	FM	Code	Weight (kg)	e (mm)	L (mm)	L1 (mm)
20	16	BCF, IR	<b>735 158 631</b>	0.023	1.9	32	25
25	16	BCF, IR	<b>735 158 632</b>	0.020	1.9	34	26
32	16	BCF, IR	<b>735 158 633</b>	0.045	2.4	36	26
40	16	BCF, IR	<b>735 158 634</b>	0.061	2.4	39	28
50	16	BCF, IR	<b>735 158 635</b>	0.093	3.0	42	30
63	16	BCF, IR	<b>735 158 636</b>	0.131	3.0	47	31
75	16	BCF, IR	<b>735 158 637</b>	0.198	3.6	49	32
90	16	BCF, IR	<b>735 158 638</b>	0.326	4.3	57	37
110	16	BCF, IR	<b>735 158 639</b>	0.574	5.3	70	46
140	16	IR	<b>735 158 641</b>	1.095	6.7	88	57
160	16	IR	<b>735 158 642</b>	1.605	7.7	100	62
200	16	IR	<b>735 158 644</b>	3.018	9.6	124	77
225	16	IR	<b>735 158 645</b>	4.324	10.8	140	88

### SYGEF Plus bend 45° SDR21/PN16



**Model:**

- Material: PVDF-HP

d (mm)	PN (bar)	FM	Code	Weight (kg)	e (mm)	L (mm)	L1 (mm)	R (mm)
250	16	IR	<b>735 158 646</b>	3.669	11.9	120	47	232
280	16	IR	<b>735 158 647</b>	5.099	13.4	133	47	262
315	16	IR	<b>735 158 648</b>	7.162	15.0	147	47	297



### SYGEF Plus elbow 45° SDR33/PN10

**Model:**

- Material: PVDF-HP

d (mm)	PN (bar)	FM	Code	Weight (kg)	e (mm)	L (mm)	L1 (mm)
90	10	BCF, IR	<b>735 158 538</b>	0.181	2.8	57	37
110	10	BCF, IR	<b>735 158 539</b>	0.330	3.4	70	46
125	10	IR	<b>735 158 540</b>	0.490	3.9	79	51
140	10	IR	<b>735 158 541</b>	0.827	4.3	88	57
160	10	IR	<b>735 158 542</b>	1.186	4.9	100	62
200	10	IR	<b>735 158 544</b>	2.148	6.2	124	77
225	10	IR	<b>735 158 545</b>	3.114	6.9	140	88

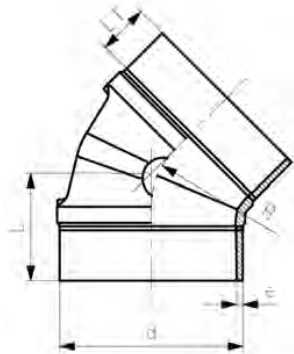


### SYGEF Plus bend 45° SDR33/PN10

**Model:**

- Material: PVDF-HP

d (mm)	PN (bar)	FM	Code	Weight (kg)	e (mm)	L (mm)	L1 (mm)	R (mm)
250	10	IR	<b>735 158 546</b>	2.402	7.7	120	47	232
280	10	IR	<b>735 158 547</b>	3.518	8.6	133	47	262
315	10	IR	<b>735 158 548</b>	4.923	9.7	147	47	297
355	10	IR	<b>735 158 549</b>	11.491	10.9	208	100	257
400	10	IR	<b>735 158 550</b>	15.114	12.3	222	100	290
450	10	IR	<b>735 158 551</b>	19.963	13.8	238	100	328





### SYGEF Plus tee 90° equal SDR21/PN16



**Model:**

- Material: PVDF-HP



d (mm)	PN (bar)	FM	Code	Weight (kg)	e (mm)	L (mm)	L1 (mm)
20	16	BCF, IR	735 208 631	0.029	1.9	38	25
25	16	BCF, IR	735 208 632	0.047	1.9	42	27
32	16	BCF, IR	735 208 633	0.076	2.4	46	27
40	16	BCF, IR	735 208 634	0.104	2.4	51	28
50	16	BCF, IR	735 208 635	0.170	3.0	58	28
63	16	BCF, IR	735 208 636	0.280	3.0	66	28
75	16	BCF, IR	735 208 637	0.403	3.6	75	32
90	16	BCF, IR	735 208 638	0.678	4.3	90	39
110	16	BCF, IR	735 208 639	1.185	5.3	110	48
140	16	IR	735 208 641	2.384	6.7	140	62
160	16	IR	735 208 642	3.408	7.7	160	71
200	16	IR	735 208 644	6.845	9.6	200	80
225	16	IR	735 208 645	9.755	10.8	220	86
250	16	IR	735 208 646	10.823	11.9	223	70
280	16	IR	735 208 647	16.061	13.4	256	74
315	16	IR	735 208 648	21.422	15.0	274	74

### SYGEF Plus tee 90° equal SDR33/PN10



**Model:**

- Material: PVDF-HP



d (mm)	PN (bar)	FM	Code	Weight (kg)	e (mm)	L (mm)	L1 (mm)
90	10	BCF, IR	735 208 538	0.546	2.8	90	39
110	10	BCF, IR	735 208 539	0.898	3.4	110	48
125	10	IR	735 208 540	1.280	3.9	125	56
140	10	IR	735 208 541	1.707	4.3	140	62
160	10	IR	735 208 542	2.523	4.9	160	71
200	10	IR	735 208 544	5.373	6.2	200	80
225	10	IR	735 208 545	7.270	6.9	220	86
250	10	IR	735 208 546	6.939	7.7	223	70
280	10	IR	735 208 547	10.475	8.6	256	74
315	10	IR	735 208 548	13.882	9.7	274	74

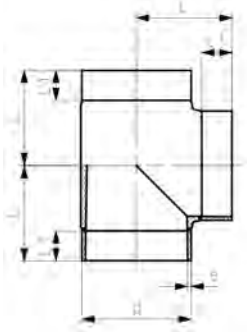


**SYGEF Plus tee 90° equal SDR33/PN10**

**Model:**

- Material: PVDF-HP

d (mm)	PN (bar)	FM	Code	Weight (kg)	e (mm)	L (mm)	L1 (mm)
355	10	IR	<b>735 208 549</b>	21.542	10.9	311	100
400	10	IR	<b>735 208 550</b>	29.042	12.3	332	100
450	10	IR	<b>735 208 551</b>	38.877	13.8	357	100

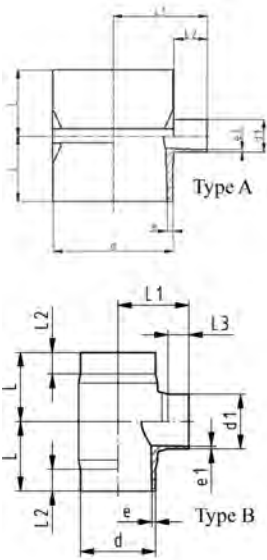




### SYGEF Plus tee 90° reduced SDR21/PN16

**Model:**

- Material: PVDF-HP



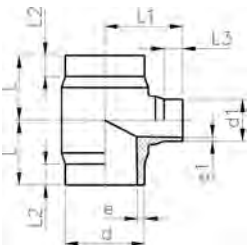
	d - d1 (mm)	PN (bar)	FM	Code	Weight (kg)	e (mm)	e1 (mm)	L (mm)	L1 (mm)	L2 (mm)	L3 (mm)
A	63 - 20	16	BCF, IR	<b>735 208 956</b>	0.250	3.0	1.9	60	67	25	35
A	63 - 25	16	BCF, IR	<b>735 208 957</b>	0.245	3.0	1.9	60	66	25	34
A	63 - 32	16	BCF, IR	<b>735 208 958</b>	0.257	3.0	2.4	60	67	25	25
A	63 - 40	16	BCF, IR	<b>735 208 959</b>	0.254	3.0	2.4	60	66	25	26
A	75 - 20	16	BCF, IR	<b>735 208 961</b>	0.348	3.6	1.9	65	69	25	31
A	75 - 25	16	BCF, IR	<b>735 208 962</b>	0.356	3.6	1.9	65	72	25	34
A	75 - 32	16	BCF, IR	<b>735 208 963</b>	0.308	3.6	2.4	65	69	25	31
A	75 - 40	16	BCF, IR	<b>735 208 964</b>	0.312	3.6	2.4	65	72	25	26
A	75 - 50	16	BCF, IR	<b>735 208 965</b>	0.372	3.6	3.0	65	69	25	26
A	90 - 20	16	BCF, IR	<b>735 208 967</b>	0.470	4.3	1.9	65	76	25	31
A	90 - 25	16	BCF, IR	<b>735 208 968</b>	0.466	4.3	1.9	65	79	25	34
A	90 - 32	16	BCF, IR	<b>735 208 969</b>	0.405	4.3	2.4	65	76	25	31
A	90 - 40	16	BCF, IR	<b>735 208 970</b>	0.476	4.3	2.4	65	79	25	26
A	90 - 50	16	BCF, IR	<b>735 208 971</b>	0.452	4.3	3.0	65	76	25	26
B	90 - 63	16	BCF, IR	<b>735 208 972</b>	0.611	4.3	3.0	80	85	25	25
A	110 - 20	16	BCF, IR	<b>735 208 974</b>	0.641	5.3	1.9	65	86	25	31
A	110 - 25	16	BCF, IR	<b>735 208 975</b>	0.570	5.3	1.9	65	89	25	34
A	110 - 32	16	BCF, IR	<b>735 208 976</b>	0.570	5.3	2.4	65	86	25	31
A	110 - 40	16	BCF, IR	<b>735 208 977</b>	0.640	5.3	2.4	65	89	25	26
A	110 - 50	16	BCF, IR	<b>735 208 978</b>	0.640	5.3	3.0	65	86	25	26
B	110 - 63	16	BCF, IR	<b>735 208 979</b>	0.925	5.3	3.0	90	95	30	25
B	110 - 75	16	BCF, IR	<b>735 208 980</b>	0.950	5.3	3.0	90	95	30	25
B	110 - 90	16	BCF, IR	<b>735 208 981</b>	0.959	5.3	4.3	90	95	30	25
B	160 - 90	16	IR	<b>735 208 687</b>	3.091	7.7	4.3	155	130	60	25
B	160 - 110	16	IR	<b>735 208 686</b>	3.078	7.7	5.3	155	130	60	25
B	225 - 90	16	IR	<b>735 208 695</b>	5.423	10.8	4.3	155	160	60	25
B	225 - 110	16	IR	<b>735 208 694</b>	6.100	10.8	5.3	155	160	60	25



### SYGEF Plus tee 90° reduced SDR33/PN10

**Model:**

- Material: PVDF-HP

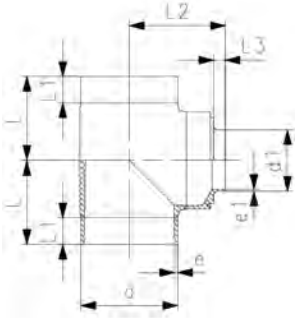


	d - d1 (mm)	PN (bar)	SDR	FM	Code	Weight (kg)	e (mm)	e1 (mm)	L (mm)	L1 (mm)	L2 (mm)	L3 (mm)
	160 - 90	10	33 - 21	IR	<b>735 208 587</b>	2.431	4.9	4.3	155	130	60	25
	160 - 110	10	33 - 21	IR	<b>735 208 586</b>	2.494	4.9	5.3	155	130	60	25
	225 - 90	10	33 - 21	IR	<b>735 208 595</b>	4.499	6.9	4.3	155	160	60	25
	225 - 110	10	33 - 21	IR	<b>735 208 594</b>	4.586	6.9	5.3	155	160	60	25
	225 - 160	10	33 - 33	IR	<b>735 208 593</b>	4.239	6.9	4.9	155	170	60	35

## SYGEF Plus tee 90° reduced SDR33/PN10

### Model:

- Material: PVDF-HP
- \* For welding d1 on IR315, left side of the machine need to be disassembled



d - d1 (mm)	PN (bar)	d fusion	d1 fusion	Code	Weight (kg)
355 - 225	10	IR450	IR315	<b>735 209 815</b>	23.459
355 - 315	10	IR450	IR450, IR315	<b>735 209 818</b>	22.645
400 - 225	10	IR450	IR315	<b>735 209 827</b>	31.921
400 - 315	10	IR450	IR450, IR315	<b>735 209 830</b>	30.925
* 450 - 225	10	IR450	IR315	<b>735 209 840</b>	43.035
* 450 - 315	10	IR450	IR450, IR315	<b>735 209 843</b>	41.891

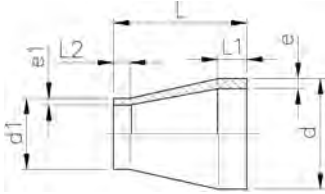
d - d1 (mm)	e (mm)	e1 (mm)	L (mm)	L1 (mm)	L2 (mm)	L3 (mm)
355 - 225	10.9	6.9	309	353	100	43
355 - 315	10.9	9.7	309	348	100	55
400 - 225	12.3	6.9	332	376	100	43
400 - 315	12.3	9.7	332	371	100	55
* 450 - 225	13.8	6.9	357	401	100	43
* 450 - 315	13.8	9.7	357	396	100	55

## SYGEF Plus reducer SDR21/PN16



### Model:

- Material: PVDF-HP



d - d1 (mm)	PN (bar)	FM	Code	Weight (kg)	e (mm)	e1 (mm)	L (mm)	L1 (mm)	L2 (mm)
25 - 20	16	BCF, IR	<b>735 908 600</b>	0.012	1.9	1.9	50	22	22
32 - 20	16	BCF, IR	<b>735 908 602</b>	0.017	2.4	1.9	50	22	22
32 - 25	16	BCF, IR	<b>735 908 601</b>	0.018	2.4	1.9	50	22	22
40 - 20	16	BCF, IR	<b>735 908 605</b>	0.024	2.4	1.9	58	22	24
40 - 25	16	BCF, IR	<b>735 908 604</b>	0.025	2.4	1.9	55	22	24
40 - 32	16	BCF, IR	<b>735 908 603</b>	0.029	2.4	2.4	55	22	24
50 - 25	16	BCF, IR	<b>735 908 608</b>	0.054	3.0	1.9	60	22	25
50 - 32	16	BCF, IR	<b>735 908 607</b>	0.059	3.0	2.4	60	22	25
50 - 40	16	BCF, IR	<b>735 908 606</b>	0.060	3.0	2.4	60	22	25
63 - 32	16	BCF, IR	<b>735 908 611</b>	0.078	3.0	2.4	65	22	25
63 - 40	16	BCF, IR	<b>735 908 610</b>	0.082	3.0	2.4	65	22	25
63 - 50	16	BCF, IR	<b>735 908 609</b>	0.090	3.0	3.0	65	22	25
75 - 40	16	BCF, IR	<b>735 908 614</b>	0.109	3.6	2.4	68	24	25
75 - 50	16	BCF, IR	<b>735 908 613</b>	0.125	3.6	3.0	65	24	25
75 - 63	16	BCF, IR	<b>735 908 612</b>	0.128	3.6	3.0	65	24	25
90 - 63	16	BCF, IR	<b>735 908 616</b>	0.164	4.3	3.0	75	25	30
90 - 75	16	BCF, IR	<b>735 908 615</b>	0.187	4.3	3.6	75	25	35
110 - 63	16	BCF, IR	<b>735 908 619</b>	0.301	5.3	3.0	90	30	30
110 - 75	16	BCF, IR	<b>735 908 618</b>	0.290	5.3	3.6	90	30	35
110 - 90	16	BCF, IR	<b>735 908 617</b>	0.321	5.3	4.3	90	30	35
140 - 110	16	IR	<b>735 908 621</b>	0.614	6.7	5.3	110	40	40
160 - 110	16	IR	<b>735 908 623</b>	0.803	7.7	5.3	120	40	40
160 - 140	16	IR	<b>735 908 622</b>	0.899	7.7	6.7	120	40	40
200 - 160	16	IR	<b>735 908 624</b>	1.474	9.6	7.7	145	40	35
225 - 110	16	IR	<b>735 908 625</b>	1.540	10.8	5.3	160	55	40
225 - 160	16	IR	<b>735 908 626</b>	1.842	10.8	7.7	160	55	28
225 - 200	16	IR	<b>735 908 627</b>	2.142	10.8	9.6	160	55	50



Typ A



Typ B

### SYGEF Plus reducer SDR21/PN16

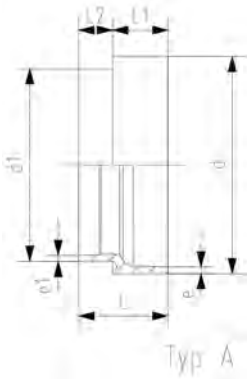
**Model:**

- Material: PVDF-HP

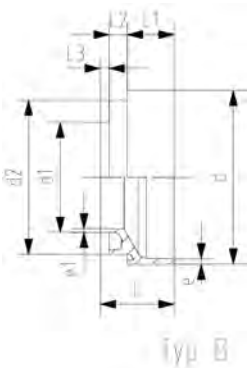
**Note:**

for Typ B, clamping for welding spigot d1 needs to be done on diameter d2

d - d1 (mm)	PN (bar)	fusion	d - d1	Code	e (mm)	e1 (mm)	L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	Type	d2 (mm)
250 - 160	16	IR		<b>735 908 628</b>	11.9	7.7	100	42	33	10	B	225
250 - 225	16	IR		<b>735 908 629</b>	11.9	10.8	90	42	33		A	
280 - 160	16	IR		<b>735 908 630</b>	13.4	7.7	100	50	33	10	B	225
280 - 225	16	IR		<b>735 908 631</b>	13.4	10.8	90	50	33		A	
315 - 160	16	IR		<b>735 908 632</b>	15.0	7.7	115	50	33	10	B	225
315 - 225	16	IR		<b>735 908 633</b>	15.0	10.8	105	50	33		A	



Typ A

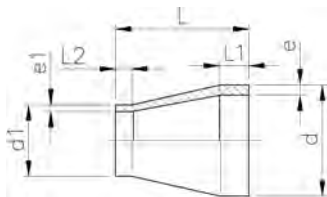


Typ B

### SYGEF Plus reducer SDR33/PN10

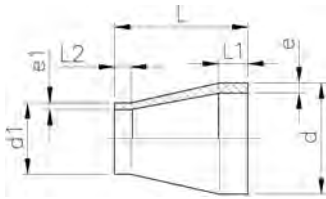
**Model:**

- Material: PVDF-HP



d - d1 (mm)	PN (bar)	SDR	FM	Code	Weight (kg)	e (mm)	e1 (mm)	L (mm)	L1 (mm)	L2 (mm)
90 - 63	10	33 - 21	BCF, IR	<b>735 908 511</b>	0.149	2.8	3.0	75	25	30
110 - 63	10	33 - 21	BCF, IR	<b>735 908 513</b>	0.164	3.4	3.0	90	30	30
110 - 90	10	33 - 33	BCF, IR	<b>735 908 515</b>	0.239	3.4	2.8	90	30	35
125 - 110	10	33 - 21	IR	<b>735 908 500</b>	0.406	3.9	5.3	100	35	40
140 - 110	10	33 - 21	IR	<b>735 908 502</b>	0.455	4.3	5.3	110	40	40
140 - 125	10	33 - 33	IR	<b>735 908 501</b>	0.439	4.3	3.9	110	40	40
160 - 110	10	33 - 33	IR	<b>735 908 521</b>	0.550	4.9	3.4	120	40	40
160 - 110	10	33 - 21	IR	<b>735 908 504</b>	0.627	4.9	5.3	120	40	40
160 - 140	10	33 - 33	IR	<b>735 908 503</b>	0.634	4.9	4.3	120	40	40
200 - 160	10	33 - 33	IR	<b>735 908 505</b>	1.032	6.2	4.9	145	50	40
225 - 110	10	33 - 33	IR	<b>735 908 526</b>	1.120	6.9	3.4	160	55	35
225 - 110	10	33 - 21	IR	<b>735 908 506</b>	1.373	6.9	5.3	160	55	35

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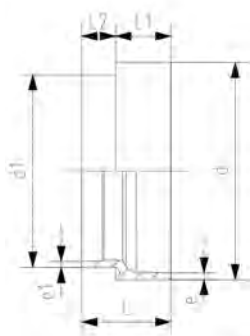
d - d1 (mm)	PN (bar)	SDR	FM	Code	Weight (kg)	e (mm)	e1 (mm)	L (mm)	L1 (mm)	L2 (mm)
225 - 160	10	33 - 33	IR	<b>735 908 507</b>	1.349	6.9	4.9	160	55	40
225 - 200	10	33 - 33	IR	<b>735 908 508</b>	1.475	6.9	6.2	160	55	50
250 - 225	10	33 - 33	IR	<b>735 908 531</b>	2.215	7.7	6.9	182	60	55
280 - 225	10	33 - 33	IR	<b>735 908 532</b>	2.955	8.6	6.9	206	70	55
315 - 225	10	33 - 33	IR	<b>735 908 533</b>	3.910	9.7	6.9	231	80	55



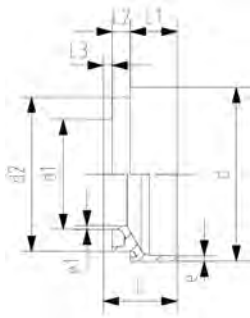
Typ A



Typ B



Typ A



Typ B

### SYGEF Plus reducer SDR 33/PN10

**Model:**

- Material: PVDF-HP

**Note:**

for Typ B, clamping for welding spigot d1 needs to be done on diameter d2

d - d1 (mm)	PN (bar)	SDR	fusion d - d1	Code
250 - 160	10	33 - 33	IR	<b>735 908 522</b>
250 - 160	10	33 - 21	IR	<b>735 908 542</b>
250 - 225	10	33 - 33	IR	<b>735 908 524</b>
250 - 225	10	33 - 21	IR	<b>735 908 544</b>
280 - 160	10	33 - 33	IR	<b>735 908 525</b>
280 - 160	10	33 - 21	IR	<b>735 908 545</b>
280 - 225	10	33 - 33	IR	<b>735 908 527</b>
280 - 225	10	33 - 21	IR	<b>735 908 547</b>
315 - 160	10	33 - 33	IR	<b>735 908 528</b>
315 - 160	10	33 - 21	IR	<b>735 908 548</b>
315 - 225	10	33 - 33	IR	<b>735 908 530</b>
315 - 225	10	33 - 21	IR	<b>735 908 550</b>
355 - 225	10	33 - 33	IR	<b>735 908 535</b>
355 - 315	10	33 - 33	IR	<b>735 908 534</b>
400 - 225	10	33 - 33	IR450 - IR315	<b>735 908 537</b>
400 - 315	10	33 - 33	IR	<b>735 908 536</b>
450 - 225	10	33 - 33	IR450 - IR315	<b>735 908 539</b>
450 - 315	10	33 - 33	IR	<b>735 908 538</b>

d - d1 (mm)	e (mm)	e1 (mm)	L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	Type	d2 (mm)
250 - 160	7.7	4.9	100	42	33	10	B	225
250 - 160	7.7	7.7	100	42	33	10	B	225
250 - 225	7.7	6.9	90	42	33		A	
250 - 225	7.7	10.8	90	42	33		A	
280 - 160	8.6	4.9	100	50	33	10	B	225
280 - 160	8.6	7.7	100	50	33	10	B	225
280 - 225	8.6	6.9	90	50	33		A	
280 - 225	8.6	10.8	90	50	33		A	
315 - 160	9.7	4.9	115	50	33	10	B	225
315 - 160	9.7	7.7	115	50	33	10	B	225
315 - 225	9.7	6.9	105	50	33		A	
315 - 225	9.7	10.8	105	50	33		A	
355 - 225	10.9	6.9	150	120	43		A	
355 - 315	10.9	9.7	145	120	55		A	
400 - 225	12.3	6.9	150	120	43		A	
400 - 315	12.3	9.7	145	120	55		A	
450 - 225	13.8	6.9	150	120	43		A	
450 - 315	13.8	9.7	145	120	55		A	

## SYGEF Plus flush style reducer SDR21/PN16

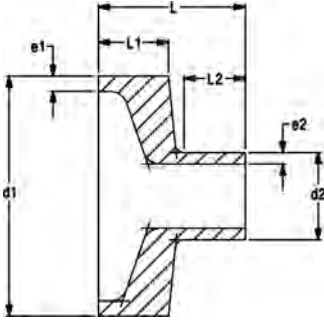


### Model:

- Material: PVDF-HP
- Machined version

### Note:

\*Clamping on IR machine for welding both spigots, need to be done on d1



	d1 (mm)	d2 (mm)	PN (bar)	d1 fusion	d2 fusion	Code	Weight (kg)	e1 (mm)	e2 (mm)	L (mm)	L1 (mm)	L2 (mm)
*	40	20	16	IR63	-	735 909 104	0.030	2.4	1.9	30	22	8
*	40	25	16	IR63	-	735 909 105	0.027	2.4	1.9	30	22	8
*	40	32	16	IR63	-	735 909 106	0.024	2.4	2.4	31	22	9
*	50	20	16	IR63	-	735 909 107	0.047	3.0	1.9	30	22	8
*	50	25	16	IR63	-	735 909 108	0.045	3.0	1.9	30	22	8
*	50	32	16	IR63	-	735 909 109	0.043	3.0	2.4	31	22	9
*	50	40	16	IR63	-	735 909 110	0.036	3.0	2.4	31	22	9
*	63	20	16	IR63	-	735 909 111	0.073	3.0	1.9	30	22	8
*	63	25	16	IR63	-	735 909 112	0.071	3.0	1.9	30	22	8
*	63	32	16	IR63	-	735 909 113	0.068	3.0	2.4	31	22	9
*	63	40	16	IR63	-	735 909 114	0.062	3.0	2.4	31	22	9
*	63	50	16	IR63	-	735 909 115	0.056	3.0	3	33	22	11
	75	20	16	IR225	IR63	735 909 116	0.115	3.6	1.9	48	23	25
	75	25	16	IR225	IR63	735 909 117	0.113	3.6	1.9	48	23	25
	75	32	16	IR225	IR63	735 909 118	0.106	3.6	2.4	49	23	26
	75	40	16	IR225	IR63	735 909 119	0.103	3.6	2.4	49	23	26
	75	50	16	IR225	IR63	735 909 120	0.105	3.6	3	50	23	27
*	75	63	16	IR225	-	735 909 121	0.072	3.6	3	34	23	11
	90	20	16	IR225	IR63	735 909 122	0.160	4.3	1.9	48	23	25
	90	25	16	IR225	IR63	735 909 123	0.157	4.3	1.9	48	23	25
	90	32	16	IR225	IR63	735 909 124	0.156	4.3	2.4	49	23	26
	90	40	16	IR225	IR63	735 909 125	0.149	4.3	2.4	49	23	26
	90	50	16	IR225	IR63	735 909 126	0.149	4.3	3	50	23	27
*	90	63	16	IR225	-	735 909 127	0.123	4.3	3	34	23	11
*	90	75	16	IR225	-	735 909 128	0.107	4.3	3.6	36	23	13
	110	20	16	IR225	IR63	735 909 129	0.244	5.3	1.9	48	23	25
	110	25	16	IR225	IR63	735 909 130	0.241	5.3	1.9	48	23	25
	110	32	16	IR225	IR63	735 909 131	0.240	5.3	2.4	49	23	26
	110	40	16	IR225	IR63	735 909 132	0.233	5.3	2.4	49	23	26
	110	50	16	IR225	IR63	735 909 133	0.227	5.3	3	50	23	27
*	110	63	16	IR225	-	735 909 134	0.195	5.3	3	34	23	11
*	110	75	16	IR225	-	735 909 135	0.192	5.3	3.6	36	23	13
*	110	90	16	IR225	-	735 909 136	0.169	5.3	4.3	37	23	14
*	280	250	16	IR315	-	735 909 195	2.228	13.4	11.9	77	57	20
*	315	250	16	IR315	-	735 909 205	3.872	15.0	11.9	88	68	20



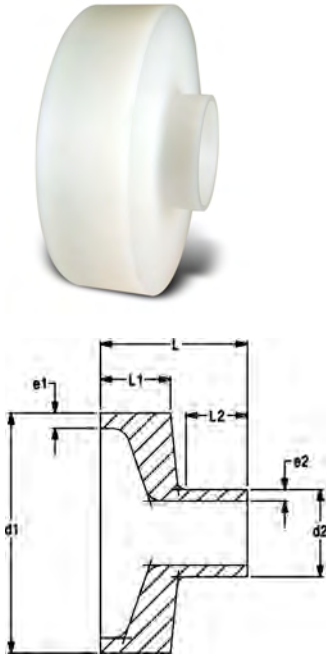
**SYGEF Plus flush style reducer SDR33/PN10**

**Model:**

- Material: PVDF-HP
- Machined version

**Note:**

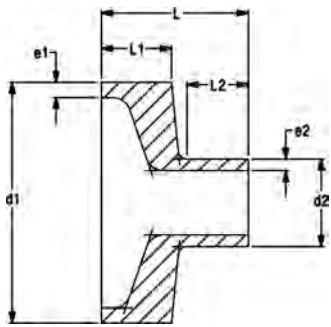
\*Clamping on IR machine for welding both spigots, need to be done on d1



	<b>d1</b> (mm)	<b>d2</b> (mm)	<b>PN</b> (bar)	<b>d1 fusion</b>	<b>d2 fusion</b>	<b>Code</b>	<b>Weight</b> (kg)
*	160	63	10 - 16	IR225	-	<b>735 909 356</b>	0.714
*	160	75	10 - 16	IR225	-	<b>735 909 357</b>	0.654
*	160	90	10 - 16	IR225	-	<b>735 909 358</b>	0.593
*	160	110	10 - 16	IR225	-	<b>735 909 359</b>	0.556
*	200	63	10 - 16	IR225	-	<b>735 909 362</b>	1.180
*	200	75	10 - 16	IR225	-	<b>735 909 363</b>	1.120
*	200	90	10 - 16	IR225	-	<b>735 909 364</b>	1.059
*	200	110	10 - 16	IR225	-	<b>735 909 365</b>	0.974
*	200	160	10 - 10	IR225	-	<b>735 909 768</b>	0.691
*	225	63	10 - 16	IR225	-	<b>735 909 369</b>	1.477
*	225	75	10 - 16	IR225	-	<b>735 909 370</b>	1.480
*	225	90	10 - 16	IR225	-	<b>735 909 371</b>	1.415
*	225	110	10 - 16	IR225	-	<b>735 909 372</b>	1.384
*	225	160	10 - 10	IR225	-	<b>735 909 775</b>	0.906
*	225	200	10 - 10	IR225	-	<b>735 909 776</b>	0.720
	250	63	10 - 16	IR315	IR225	<b>735 909 377</b>	2.081
	250	75	10 - 16	IR315	IR225	<b>735 909 378</b>	2.120
	250	90	10 - 16	IR315	IR225	<b>735 909 379</b>	2.139
	250	110	10 - 16	IR315	IR225	<b>735 909 380</b>	2.109
	250	160	10 - 10	IR315	IR225	<b>735 909 783</b>	1.369
	250	200	10 - 10	IR315	IR225	<b>735 909 784</b>	1.240
	250	225	10 - 10	IR315	IR225	<b>735 909 785</b>	1.052
	315	63	10 - 16	IR315	IR225	<b>735 909 396</b>	4.135
	315	75	10 - 16	IR315	IR225	<b>735 909 397</b>	4.009
	315	90	10 - 16	IR315	IR225	<b>735 909 398</b>	4.067
	315	110	10 - 16	IR315	IR225	<b>735 909 399</b>	4.201
	315	160	10 - 10	IR315	IR225	<b>735 909 802</b>	3.049
	315	200	10 - 10	IR315	IR225	<b>735 909 803</b>	2.663
	315	225	10 - 10	IR315	IR225	<b>735 909 804</b>	2.423
*	315	250	10 - 10	IR315	-	<b>735 909 805</b>	2.707

	<b>d1</b> (mm)	<b>d2</b> (mm)	<b>e1</b> (mm)	<b>e2</b> (mm)	<b>L</b> (mm)	<b>L1</b> (mm)	<b>L2</b> (mm)
*	160	63	4.9	3	44	33	11
*	160	75	4.9	3.6	46	33	13
*	160	90	4.9	4.3	47	33	14
*	160	110	4.9	5.3	50	33	17
*	200	63	6.2	3	45	33	12
*	200	75	6.2	3.6	46	33	13
*	200	90	6.2	4.3	47	33	14
*	200	110	6.2	5.3	50	33	17
*	200	160	6.2	4.9	48	33	15
*	225	63	6.9	3	46	34	12
*	225	75	6.9	3.6	48	35	13
*	225	90	6.9	4.3	50	36	14
*	225	110	6.9	5.3	53	36	17
*	225	160	6.9	4.9	48	33	15
*	225	200	6.9	6.2	51	33	18
	250	63	7.7	3	72	42	30
	250	75	7.7	3.6	71	43	28
	250	90	7.7	4.3	73	44	29
	250	110	7.7	5.3	76	45	31
	250	160	7.7	4.9	74	34	40
	250	200	7.7	6.2	76	34	42
	250	225	7.7	6.9	77	34	43

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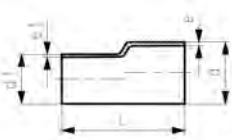
	<b>d1</b>	<b>d2</b>	<b>e1</b>	<b>e2</b>	<b>L</b>	<b>L1</b>	<b>L2</b>
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
	315	63	9.7	3	85	47	38
	315	75	9.7	3.6	90	47	43
	315	90	9.7	4.3	92	48	44
	315	110	9.7	5.3	96	50	46
	315	160	9.7	4.9	84	44	40
	315	200	9.7	6.2	86	44	42
	315	225	9.7	6.9	85	42	43
*	315	250	9.7	7.7	77	54	23



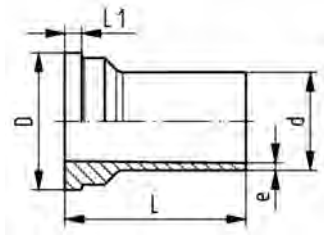
### SYGEF Plus reducing bush eccentric PN16

#### Model:

- Material: PVDF-HP



<b>d - d1</b>	<b>FM</b>	<b>Code</b>	<b>Weight</b>	<b>e</b>	<b>e1</b>	<b>L</b>
(mm)			(kg)	(mm)	(mm)	(mm)
25 - 20	BCF, IR	<b>735 938 737</b>	0.020	1.9	1.9	80
32 - 20	BCF, IR	<b>735 938 742</b>	0.027	2.4	1.9	80
32 - 25	BCF, IR	<b>735 938 741</b>	0.030	2.4	1.9	80
40 - 20	BCF, IR	<b>735 938 748</b>	0.051	2.4	1.9	100
40 - 25	BCF, IR	<b>735 938 747</b>	0.043	2.4	1.9	100
40 - 32	BCF, IR	<b>735 938 746</b>	0.050	2.4	2.4	100
50 - 32	BCF, IR	<b>735 938 753</b>	0.068	3.0	2.4	100
50 - 40	BCF, IR	<b>735 938 752</b>	0.074	3.0	2.4	100
63 - 32	BCF, IR	<b>735 938 760</b>	0.105	3.0	2.4	100
63 - 40	BCF, IR	<b>735 938 759</b>	0.106	3.0	2.4	100
63 - 50	BCF, IR	<b>735 938 758</b>	0.097	3.0	3.0	100

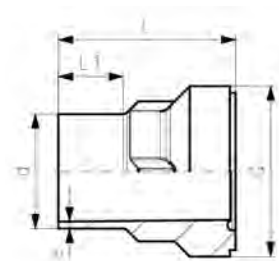


### SYGEF Plus union end PN16

**Model:**

- Suitable for vortex sensor
- Material: PVDF-HP
- Suitable for SYGEF Plus union butt fusion
- Suitable for diaphragm valves type 314 and 514

FM	d	PN	Code	Weight	e	L1	D	L
	(mm)	(bar)		(kg)	(mm)	(mm)	(mm)	(mm)
BCF, IR	20	16	<b>735 608 626</b>	0.019	1.9	5	30	53
BCF, IR	25	16	<b>735 608 627</b>	0.030	1.9	5	39	56
BCF, IR	32	16	<b>735 608 628</b>	0.043	2.4	6	45	59
BCF, IR	40	16	<b>735 608 629</b>	0.070	2.4	6	57	62
BCF, IR	50	16	<b>735 608 630</b>	0.191	3.0	7	63	65
BCF, IR	63	16	<b>735 608 631</b>	0.130	3.0	8	78	68
BCF, IR	75	16	<b>735 608 637</b>	0.194	3.6	9	101	66
BCF, IR	90	16	<b>735 608 638</b>	0.189	4.3	9	101	65
BCF, IR	110	16	<b>735 608 639</b>	0.264	5.3	10	121	65

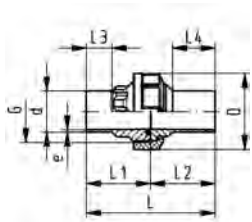


### SYGEF Plus union bush PN16

**Model:**

- Material: PVDF-HP
- Suitable for SYGEF Plus union butt fusion
- d75, d90 and d100 with buttress shaped thread

FM	d	PN	Code	Weight	e	L	G	L1
	(mm)	(bar)		(kg)	(mm)	(mm)	(inch)	(mm)
BCF, IR	20	16	<b>735 648 626</b>	0.024	1.9	53	1	25
BCF, IR	25	16	<b>735 648 627</b>	0.041	1.9	56	1 1/4	25
BCF, IR	32	16	<b>735 648 628</b>	0.056	2.4	59	1 1/2	25
BCF, IR	40	16	<b>735 648 629</b>	0.089	2.4	62	2	25
BCF, IR	50	16	<b>735 648 630</b>	0.116	3.0	65	2 1/4	25
BCF, IR	63	16	<b>735 648 631</b>	0.172	3.0	68	2 3/4	25
BCF, IR	75	16	<b>735 648 637</b>	0.261	3.6	66	S 107.5 x 3.6	24
BCF, IR	90	16	<b>735 648 638</b>	0.258	4.3	65	S 107.5 x 3.6	24
BCF, IR	110	16	<b>735 648 639</b>	0.343	5.3	65	S 127.5 x 3.6	25

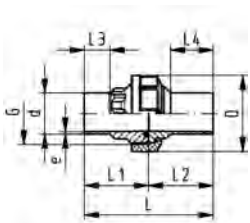


### SYGEF Plus union (FPM white) SDR21/PN16

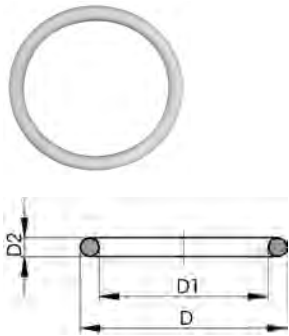
**Model:**

- Material: PVDF-HP
- FDA compliant
- d75, d90 and d100 with buttress shaped thread
- Please see installation instruction

d	PN	FM	Code	Weight
(mm)	(bar)			(kg)
20	16	BCF, IR	<b>735 528 626</b>	0.082
25	16	BCF, IR	<b>735 528 627</b>	0.123
32	16	BCF, IR	<b>735 528 628</b>	0.166
40	16	BCF, IR	<b>735 528 629</b>	0.263
50	16	BCF, IR	<b>735 528 630</b>	0.372
63	16	BCF, IR	<b>735 528 631</b>	0.463
75	16	BCF, IR	<b>735 528 637</b>	0.740
90	16	BCF, IR	<b>735 528 638</b>	0.798
110	16	BCF, IR	<b>735 528 639</b>	1.020



d (mm)	G (R/Rp BS Thread) (inch)	e (mm)	D (mm)	L (mm)	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)
20	1	1.9	43	106	53	53	25	37
25	1 1/4	1.9	53	112	56	56	25	38
32	1 1/2	2.4	60	118	59	59	25	40
40	2	2.4	74	124	62	62	25	41
50	2 1/4	3.0	82	130	65	65	25	43
63	2 3/4	3.0	100	136	68	68	25	44
75	S 107.5 x 3.6	3.6	133	132	66	66	24	34
90	S 107.5 x 3.6	4.3	133	130	65	65	24	48
110	S 127.5 x 3.6	5.3	155	130	65	65	25	45



### O-ring white

d (mm)	PN (bar)	FPM Code	Weight (kg)	D (mm)	D1 (mm)	D2 (mm)
20	16	749 411 005	0.002	21	15.5	2.6
25	16	749 411 006	0.002	27	20.2	3.5
32	16	749 411 120	0.002	34	26.6	3.5
40	16	749 411 062	0.002	42	34.5	3.5
50	16	749 411 172	0.003	51	44.0	3.5
63	16	749 411 054	0.003	63	55.0	4.0
75	16	749 411 013	0.010	80	69.2	5.3
90	16	749 411 014	0.012	93	81.9	5.3
110	16	749 411 015	0.015	117	101.0	5.3



### SYGEF Plus installation fitting SDR21/PN16

**Model:**

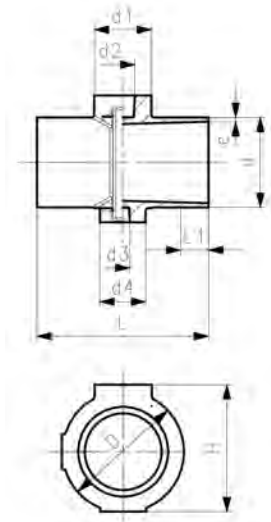
- Material: PVDF-HP
- Injection-moulded version

**Range of use:**

- compatible with all signet sensors excepting flow sensors

**Note:**

Thread needs to be milled, HAND HELD DRILLING MUST NOT BE DONE



d (mm)	PN (bar)	FM	Code	Weight (kg)
63	16	BCF, IR	<b>735 918 811</b>	0.147
75	16	BCF, IR	<b>735 918 812</b>	0.210
90	16	BCF, IR	<b>735 918 813</b>	0.265
110	16	BCF, IR	<b>735 918 814</b>	0.355
140	16	IR	<b>735 918 816</b>	1.319
160	16	IR	<b>735 918 817</b>	1.601
225	16	IR	<b>735 918 820</b>	2.698

d (mm)	D (mm)	e (mm)	d1 (mm)	d2 (mm)	d3 (mm)	d4 (mm)	H (mm)	L (mm)	L1 (mm)	Rp/NPT (inch)
63	85	3.0	40	17	10	32	89	120	25	¼ - ¾
75	96	3.6	40	17	10	40	101	130	25	¼ - ¾
90	110	4.3	40	17	10	40	116	130	25	¼ - ¾
110	127	5.3	40	17	10	40	136	130	25	¼ - ¾
140	171	6.7	63	17	10	50	171	155	40	¼ - 1
160	189	7.7	63	17	10	50	191	155	40	¼ - 1
225	248	10.8	63	17	10	50	256	155	40	¼ - 1



### SYGEF Plus installation fitting SDR33/PN10

**Model:**

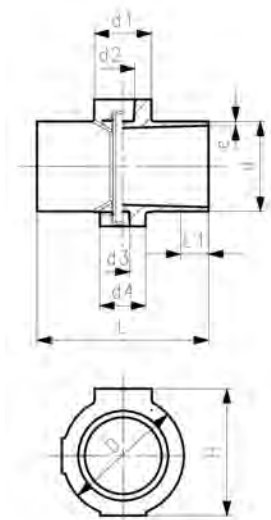
- Material: PVDF-HP
- Injection-moulded version

**Range of use:**

- compatible with all signet sensors excepting flow sensors

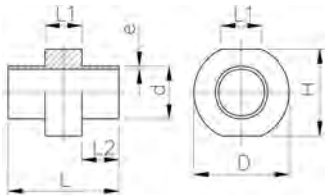
**Note:**

Thread needs to be milled, HAND HELD DRILLING MUST NOT BE DONE



d (mm)	PN (bar)	FM	Code	Weight (kg)
140	10	IR	<b>735 918 716</b>	0.967
160	10	IR	<b>735 918 717</b>	1.141
225	10	IR	<b>735 918 720</b>	1.845

d (mm)	D (mm)	e (mm)	d1 (mm)	d2 (mm)	d3 (mm)	d4 (mm)	H (mm)	L (mm)	L1 (mm)	Rp/NPT (inch)
140	171	4.3	63	17	10	50	171	155	40	¼ - 1
160	189	4.9	63	17	10	50	191	155	40	¼ - 1
225	248	6.9	63	17	10	50	256	155	40	¼ - 1



### SYGEF Plus installation fitting SDR33/PN10 & SDR21/PN16

**Model:**

- Material: PVDF-HP
- Suitable for hole diameters from 1/8" - 3/4"
- Machined version

**Range of use:**

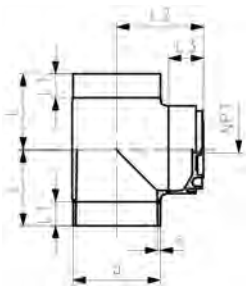
- compatible with all signet sensors excepting flow sensors

**Note:**

Hole needs to be milled, HAND HELD DRILLING MUST NOT BE DONE

\* no stock item

	d (mm)	PN (bar)	FM	Code	Weight (kg)	e (mm)	D (mm)	H (mm)	L (mm)	L1 (mm)	L2 (mm)
*	125	10	IR	<b>735 918 565</b>	0.858	3.9	162	157	100	40	27
*	200	10	IR	<b>735 918 569</b>	1.486	6.2	231	228	110	40	32
*	200	16	IR	<b>735 918 619</b>	1.871	9.6	231	228	110	40	32
*	250	16	IR	<b>735 918 621</b>	3.331	11.9	277	274	160	40	60
*	280	16	IR	<b>735 918 622</b>	3.981	13.4	304	301	160	40	60
*	315	16	IR	<b>735 918 623</b>	4.793	15.0	336	334	160	40	60



### SYGEF Plus instrument installation fitting NPT SDR33/PN10

**Model:**

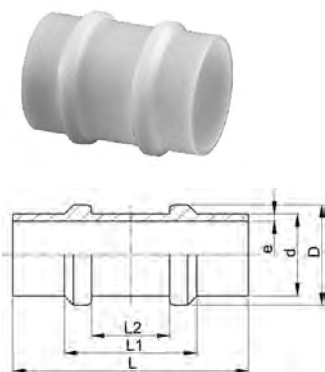
- Material: PVDF-HP

	d (mm)	NPT (inch)	PN (bar)	FM	Code	Weight (kg)	e (mm)	L (mm)	L1 (mm)	L2 (mm)	L3 (mm)
	355	½	10	IR	<b>735 918 849</b>	25.829	10.9	313	353	100	142
	400	½	10	IR	<b>735 918 850</b>	34.622	12.3	332	376	100	142
	450	½	10	IR	<b>735 918 851</b>	45.933	13.8	357	401	100	142

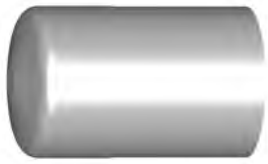
### SYGEF Plus fixpoint fitting SDR21/PN16

**Model:**

- Material: PVDF-HP



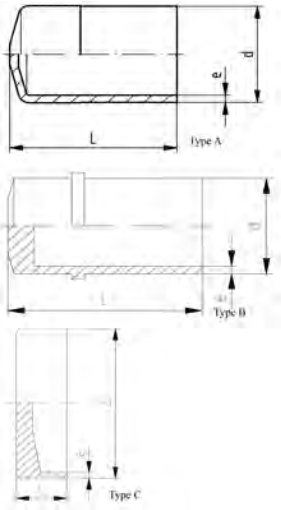
	d (mm)	PN (bar)	FM	Code	Weight (kg)	D (mm)	e (mm)	L (mm)	L1 (mm)	L2 (mm)
	20	16	BCF, IR	<b>735 918 656</b>	0.027	28	1.9	100	53	32
	25	16	BCF, IR	<b>735 918 657</b>	0.036	33	1.9	100	53	32
	32	16	BCF, IR	<b>735 918 658</b>	0.054	40	2.4	100	53	32
	40	16	BCF, IR	<b>735 918 659</b>	0.067	48	2.4	100	53	32
	50	16	BCF, IR	<b>735 918 660</b>	0.125	58	3.0	100	53	32
	63	16	BCF, IR	<b>735 918 661</b>	0.131	71	3.0	105	53	32
	75	16	BCF, IR	<b>735 918 662</b>	0.252	87	3.6	125	70	40
	90	16	BCF, IR	<b>735 918 663</b>	0.370	105	4.3	127	70	40
	110	16	BCF, IR	<b>735 918 664</b>	0.521	127	5.3	127	70	40



### SYGEF Plus end cap SDR21/PN16

**Model:**

- Material: PVDF-HP



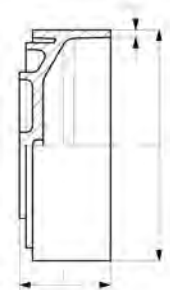
d (mm)	FM	PN (bar)	Code	Weight (kg)	e (mm)	L (mm)	Type
20	BCF, IR	16	<b>735 968 106</b>	0.017	1.9	47	A
25	BCF, IR	16	<b>735 968 107</b>	0.012	1.9	47	A
32	BCF, IR	16	<b>735 968 108</b>	0.034	2.4	52	A
40	BCF, IR	16	<b>735 991 654</b>	0.068	2.4	59	B
50	BCF, IR	16	<b>735 991 655</b>	0.104	3.0	64	B
63	BCF, IR	16	<b>735 991 656</b>	0.165	3.0	69	B
75	IR	16	<b>735 991 657</b>	0.283	3.6	40	C
90	IR	16	<b>735 991 658</b>	0.292	4.3	40	C
110	IR	16	<b>735 991 659</b>	0.812	5.3	40	C



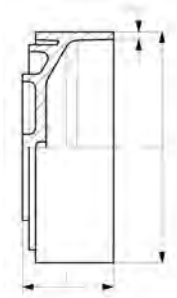
### SYGEF Plus end cap SDR21/PN16

**Model:**

- Material: PVDF-HP



d (mm)	PN (bar)	FM	Code	Weight (kg)	e (mm)	L (mm)
250	16	IR	<b>735 968 046</b>	2.514	11.9	122
280	16	IR	<b>735 968 047</b>	3.114	13.4	122
315	16	IR	<b>735 968 048</b>	4.209	15.0	124

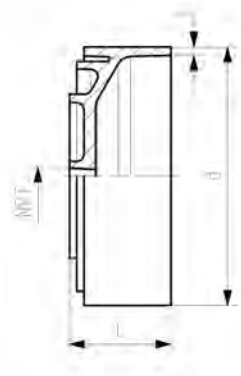


### SYGEF Plus end cap SDR33/PN10

**Model:**

- Material: PVDF-HP
- \* machined version

	d (mm)	PN (bar)	FM	Code	e (mm)	L (mm)
*	160	10	IR	<b>735 991 661</b>	4.9	50
*	200	10	IR	<b>735 991 662</b>	6.2	50
*	225	10	IR	<b>735 991 663</b>	6.9	50
NEW	250	10	IR	<b>735 968 546</b>	7.7	114
NEW	280	10	IR	<b>735 968 547</b>	8.6	115
NEW	315	10	IR	<b>735 968 548</b>	9.7	130
	355	10	IR	<b>735 968 549</b>	10.9	150
	400	10	IR	<b>735 968 550</b>	12.3	150
	450	10	IR	<b>735 968 551</b>	13.8	150



### SYGEF Plus end cap with thread SDR33/PN10

**Model:**

- Material: PVDF-HP

	d (mm)	NPT (inch)	PN (bar)	FM	Code	e (mm)	L (mm)
NEW	250	½	10	IR	<b>735 968 625</b>	7.7	114
NEW	280	½	10	IR	<b>735 968 630</b>	8.6	115
NEW	315	½	10	IR	<b>735 968 635</b>	9.7	130
	355	½	10	IR	<b>735 968 640</b>	10.9	150
	400	½	10	IR	<b>735 968 645</b>	12.3	150
	450	½	10	IR	<b>735 968 650</b>	13.8	150



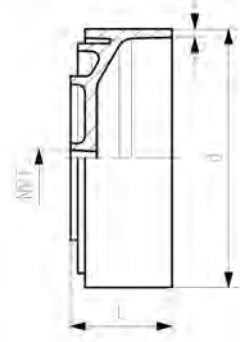


### SYGEF Plus end cap with thread SDR21/PN16

**Model:**

- Material: PVDF-HP

d	NPT	PN	FM	Code	Weight	e	L
(mm)	(inch)	(bar)			(kg)	(mm)	(mm)
250	½	16	IR	<b>735 968 425</b>	2.508	11.9	114
280	½	16	IR	<b>735 968 430</b>	3.107	13.4	115
315	½	16	IR	<b>735 968 435</b>	4.201	15.0	130



## Transition fittings

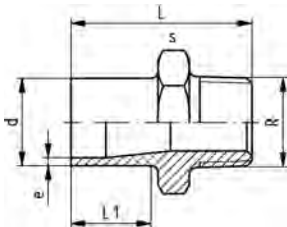


### SYGEF Plus adaptor nipple male thread R SDR21/PN16

**Model:**

- Material: PVDF-HP
- With taper male thread
- Connection to plastic thread only
- Do not use thread sealing pastes that are harmful to PVDF
- Avoid stresses when installing and large changes in temperature

d	R	PN	FM	Code	Weight	e	L	s	L1
(mm)	(inch)	(bar)			(kg)	(mm)	(mm)	(mm)	(mm)
20	½	16	BCF, IR	<b>735 910 706</b>	0.039	1.9	53	32	28
25	¾	16	BCF, IR	<b>735 910 707</b>	0.021	1.9	55	36	28
32	1	16	BCF, IR	<b>735 910 708</b>	0.034	2.4	57	46	28
40	1 ¼	16	BCF, IR	<b>735 910 709</b>	0.058	2.4	60	55	28
50	1 ½	16	BCF, IR	<b>735 910 710</b>	0.087	3.0	63	65	28
63	2	16	BCF, IR	<b>735 910 711</b>	0.118	3.0	69	75	29

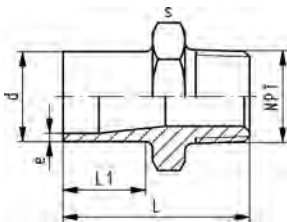


### SYGEF Plus adaptor nipple male thread NPT SDR21/PN16

**Model:**

- Material: PVDF-HP
- With taper male thread
- Connection to plastic thread only
- Avoid stresses when installing and large changes in temperature
- Do not use thread sealing pastes that are harmful to PVDF

d	NPT	PN	FM	Code	Weight	e	L	L1	s
(mm)	(inch)	(bar)			(kg)	(mm)	(mm)	(mm)	(mm)
20	½	16	BCF, IR	<b>735 914 306</b>	0.016	1.9	53	28	32
25	¾	16	BCF, IR	<b>735 914 307</b>	0.021	1.9	55	28	36
32	1	16	BCF, IR	<b>735 914 308</b>	0.035	2.4	57	28	46
40	1 ¼	16	BCF, IR	<b>735 914 309</b>	0.057	2.4	60	28	55
50	1 ½	16	BCF, IR	<b>735 914 310</b>	0.134	3.0	63	28	65
63	2	16	BCF, IR	<b>735 914 311</b>	0.119	3.0	69	29	75





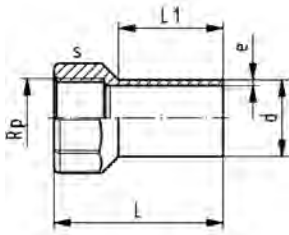
### SYGEF Plus adaptor socket female Rp SDR21/PN16

**Model:**

- Material: PVDF-HP
- With butt fusion spigot and parallel female thread Rp
- Avoid stresses when installing and large changes in temperature
- Connection to plastic thread only
- Do not use thread sealing pastes that are harmful to PVDF

**Note:**

\* Please keep strictly to the GF internal installation preferences



d	Rp	PN	FM	Code	Weight	L	L1	e	s
(mm)	(inch)	(bar)			(kg)	(mm)	(mm)	(mm)	(mm)
20	3/8	16	BCF, IR	<b>735 910 785</b>	0.030	54	30	1.9	32
20	1/2	16	BCF, IR	<b>735 910 786</b>	0.026	54	30	1.9	32
25	3/4	16	BCF, IR	<b>735 910 787</b>	0.032	58	30	1.9	38
32	1	16	BCF, IR	<b>735 910 788</b>	0.065	63	30	2.4	48
40	1 1/4	16	BCF, IR	<b>735 910 789</b>	0.092	67	30	2.4	58
50	1 1/2	16	BCF, IR	<b>735 910 790</b>	0.108	67	30	3.0	65
*	63	2	16	BCF, IR	<b>735 910 791</b>	0.195	73	30	80



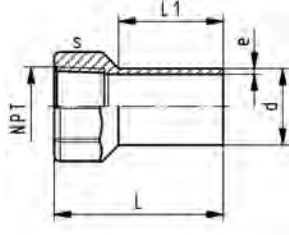
### SYGEF Plus adaptor socket female NPT SDR21/PN16

**Model:**

- Material: PVDF-HP
- With butt fusion spigot and taper female thread NPT
- Avoid stresses when installing and large changes in temperature
- Connection to plastic thread only
- Do not use thread sealing pastes that are harmful to PVDF

**Note:**

\* Please keep strictly to the GF internal installation preferences



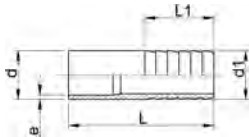
d	NPT	PN	FM	Code	Weight	e	L	s	L1
(mm)	(inch)	(bar)			(kg)	(mm)	(mm)	(mm)	(mm)
20	3/8	16	BCF, IR	<b>735 914 785</b>	0.029	1.9	54	32	30
20	1/2	16	BCF, IR	<b>735 914 786</b>	0.027	1.9	54	32	30
25	3/4	16	BCF, IR	<b>735 914 787</b>	0.033	1.9	58	38	30
32	1	16	BCF, IR	<b>735 914 788</b>	0.066	2.4	63	48	30
40	1 1/4	16	BCF, IR	<b>735 914 789</b>	0.085	2.4	67	58	30
50	1 1/2	16	BCF, IR	<b>735 914 790</b>	0.108	3.0	67	65	30
*	63	2	16	BCF, IR	<b>735 914 791</b>	0.190	3.0	73	80



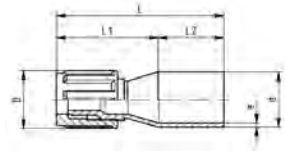
### SYGEF Plus hose adapters

**Model:**

- Material: PVDF-HP
- With butt fusion spigot and parallel hose connection.



d - d1	PN	FM	Code	Weight	e	L	L1
(mm)	(bar)			(kg)	(mm)	(mm)	(mm)
20 - 20	16	BCF, IR	<b>735 968 731</b>	0.015	1.9	64	27
25 - 25	16	BCF, IR	<b>735 968 732</b>	0.024	1.9	75	36
32 - 32	16	BCF, IR	<b>735 968 733</b>	0.042	2.4	82	36
40 - 40	16	BCF, IR	<b>735 968 734</b>	0.063	2.4	84	42
50 - 50	16	BCF, IR	<b>735 968 735</b>	0.150	3.0	90	48
63 - 60	16	BCF, IR	<b>735 968 736</b>	0.002	3.0	100	50



## SYGEF Plus flare transition fitting SDR33/PN10

### Model:

- Welding dimension: PN16
- Material: PVDF-HP

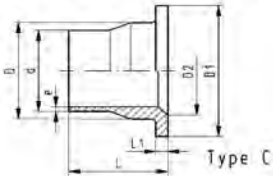
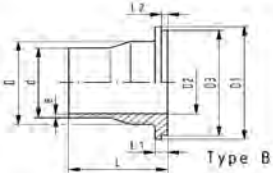
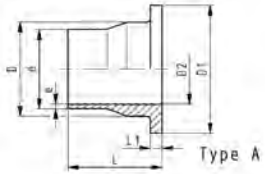
d	tube size	PN	FM	Code	Weight	e	L	L1	L2	D
(mm)	(inch)	(bar)			(kg)	(mm)	(mm)	(mm)	(mm)	(mm)
20	¾	10	BCF, IR	<b>735 598 430</b>	0.028	1.9	75	45	30	21
20	¾	10	BCF, IR	<b>735 598 431</b>	0.022	1.9	76	46	30	23
20	½	10	BCF, IR	<b>735 598 432</b>	0.034	1.9	77	47	30	26
20	¾	10	BCF, IR	<b>735 598 433</b>	0.043	1.9	78	48	30	34
25	¾	10	BCF, IR	<b>735 598 435</b>	0.033	1.9	75	45	30	21
25	¾	10	BCF, IR	<b>735 598 436</b>	0.025	1.9	76	46	30	23
25	½	10	BCF, IR	<b>735 598 437</b>	0.028	1.9	77	47	30	26
25	¾	10	BCF, IR	<b>735 598 438</b>	0.050	1.9	78	48	30	34
25	1	10	BCF, IR	<b>735 598 439</b>	0.102	1.9	87	57	30	46
32	½	10	BCF, IR	<b>735 598 442</b>	0.036	2.4	77	47	30	26
32	¾	10	BCF, IR	<b>735 598 443</b>	0.048	2.4	78	48	30	34
32	1	10	BCF, IR	<b>735 598 444</b>	0.107	2.4	87	57	30	46

## SYGEF Plus flange adaptor jointing face serrated SDR21/PN16



### Model:

- Material: PVDF-HP



d (mm)	DN (mm)	PN (bar)	FM	Code	Weight (kg)
20	15	16	BCF, IR	<b>735 798 831</b>	0.042
25	20	16	BCF, IR	<b>735 798 832</b>	0.060
32	25	16	BCF, IR	<b>735 798 833</b>	0.066
40	32	16	BCF, IR	<b>735 798 834</b>	0.121
50	40	16	BCF, IR	<b>735 798 835</b>	0.165
63	50	16	BCF, IR	<b>735 798 836</b>	0.237
75	65	16	BCF, IR	<b>735 798 837</b>	0.361
90	80	16	BCF, IR	<b>735 798 838</b>	0.444
110	100	16	BCF, IR	<b>735 798 839</b>	0.626
140	125	16	IR	<b>735 798 841</b>	0.970
160	150	16	IR	<b>735 798 842</b>	1.208
200	200	16	IR	<b>735 798 844</b>	2.139
225	200	16	IR	<b>735 798 845</b>	2.210
250	250	16	IR	<b>735 798 846</b>	3.541
280	250	16	IR	<b>735 798 847</b>	3.583
315	300	16	IR	<b>735 798 848</b>	5.040

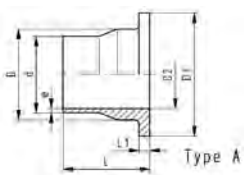
d (mm)	D (mm)	D1 (mm)	D2 (mm)	D3 (mm)	e (mm)	L (mm)	L1 (mm)	L2 (mm)	Type
20	26	45	15		1.9	54	6		A
25	32	58	20	54	1.9	56	7	4	B
32	40	68	26	63	2.4	58	7	4	B
40	49	78	34	73	2.4	68	8	4	B
50	60	88	43	82	3.0	69	8	4	B
63	75	102	56		3.0	72	9		A
75	89	122	66		3.6	80	10		A
90	105	138	78	133	4.3	81	12	4	B
110	125	158	100		5.3	81	13		C
140	155	188	127		6.7	90	16		C
160	175	212	151		7.7	93	17		C
200	232	268	207		9.6	102	22		C
225	235	268	207		10.8	102	22		C
250	285	320	249		11.9	122	25		C
280	291	320	249		13.4	122	25		C
315	335	320	370		15.0	124	28		C

## SYGEF Plus flange adaptor ANSI jointing face serrated SDR21/PN16



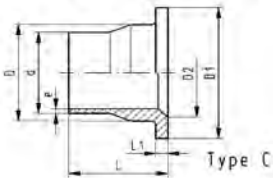
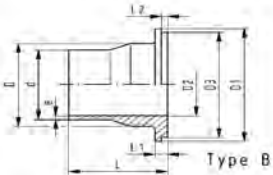
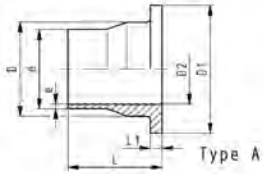
### Model:

- Material: PVDF-HP
- Other dimensions identical with metric version



d (mm)	FM	PN (bar)	Code	Weight (kg)	L1 (mm)	L (mm)	D (mm)	D2 (mm)	D1 (mm)	Type	e (mm)
25	BCF, IR	16	<b>735 798 882</b>	0.058	7	56	32	20	54	A	1.9
32	BCF, IR	16	<b>735 798 883</b>	0.084	7	58	40	26	63	A	2.4
40	BCF, IR	16	<b>735 798 884</b>	0.115	8	68	49	34	73	A	2.4
50	BCF, IR	16	<b>735 798 885</b>	0.160	8	69	60	43	82	A	3.0
90	BCF, IR	16	<b>735 798 886</b>	0.435	12	81	105	78	133	A	4.3

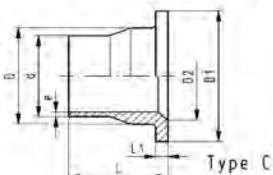
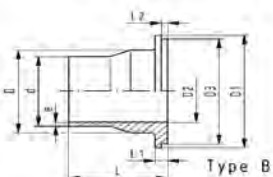
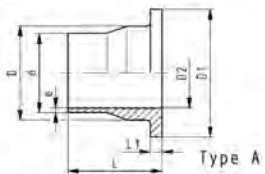
**SYGEF Plus flange adaptor jointing face serrated PN10**



d (mm)	DN (mm)	FM	PN (bar)	Code	Weight (kg)
160	150	IR	10	<b>735 798 892</b>	1.037
225	200	IR	10	<b>735 798 895</b>	1.742
250	250	IR	10	<b>735 798 596</b>	2.730
280	250	IR	10	<b>735 798 597</b>	2.715
315	300	IR	10	<b>735 798 598</b>	3.657

D (mm)	D1 (mm)	D2 (mm)	D3 (mm)	e (mm)	L (mm)	L1 (mm)	L2 (mm)	Type
175	212	151		5	93	17		
235	268	207		7	102	22		
285	320	250		8	120	22		
291	320	250		9	120	22		
335	370	300		10	120	22		

**SYGEF Plus flange adaptor jointing face serrated SDR33/PN10**



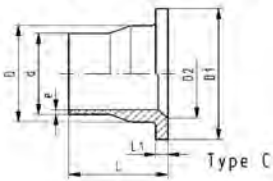
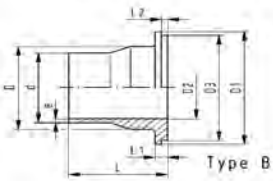
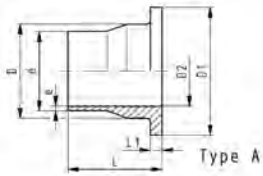
**Model:**

- Material: PVDF-HP

d (mm)	DN (mm)	PN (bar)	FM	Code	Weight (kg)
90	80	10	BCF, IR	<b>735 798 888</b>	0.413
110	100	10	BCF, IR	<b>735 798 889</b>	0.540
125	100	10	IR	<b>735 798 590</b>	0.515
140	125	10	IR	<b>735 798 891</b>	0.800
160	150	10	IR	<b>735 798 892</b>	1.037
200	200	10	IR	<b>735 798 894</b>	1.766
225	200	10	IR	<b>735 798 895</b>	1.742
250	250	10	IR	<b>735 798 596</b>	2.730
280	250	10	IR	<b>735 798 597</b>	2.715
315	300	10	IR	<b>735 798 598</b>	3.657
355	350	10	IR	<b>735 798 549</b>	6.572
400	400	10	IR	<b>735 798 550</b>	7.970
450	450	10	IR	<b>735 798 551</b>	10.605

d (mm)	D (mm)	D1 (mm)	D2 (mm)	D3 (mm)	e (mm)	L (mm)	L1 (mm)	L2 (mm)	Type
90	105	138	78	133	2.8	81	12	4	B
110	125	158	100		3.4	81	13		A
125	132	158	114		3.9	82	14		A
140	155	188	127		4.3	90	16		A
160	175	212	151		4.9	93	17		C
200	232	268	207		6.2	102	22		C
225	235	268	207		6.9	102	22		A
250	285	320	249		7.7	120	22		C
280	291	320	249		8.6	120	22		A

table continued on the next page

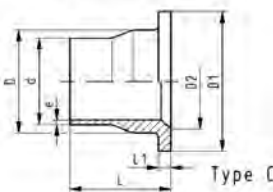
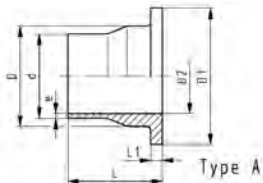


d	D	D1	D2	D3	e	L	L1	L2	Type
(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	
315	335	370	300		9.7	120	22		C
355	373	430	330		10.9	170	30		A
400	427	482	396		12.3	175	32		C
450	467	530	430		13.8	180	36		C

### SYGEF Plus flange adaptor JIS SDR21/PN16

#### Model:

- Material: PVDF-HP



d	DN	PN	FM	Code	Weight	D	D1	D2	e	L	L1	Type
(mm)	(mm)	(bar)			(kg)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	
20	15	16	BCF, IR	<b>735 805 926</b>	0.025	26	34	15	2	54	6	A
25	20	16	BCF, IR	<b>735 805 927</b>	0.041	32	41	20	2	56	7	A
32	25	16	BCF, IR	<b>735 805 928</b>	0.066	40	50	26	2	58	7	A
40	32	16	BCF, IR	<b>735 805 929</b>	0.101	49	61	34	2	68	8	A
50	40	16	BCF, IR	<b>735 805 930</b>	0.139	60	73	42	3	69	8	A
63	50	16	BCF, IR	<b>735 805 931</b>	0.200	75	90	56	3	72	9	A
75	65	16	BCF, IR	<b>735 805 932</b>	0.308	89	106	66	4	80	10	A
90	80	16	BCF, IR	<b>735 805 933</b>	0.387	105	125	78	4	80	11	A
110	100	16	BCF, IR	<b>735 805 934</b>	0.556	125	150	100	5	80	12	C
140	125	16	IR	<b>735 798 841</b>	0.970	155	188	127	7	90	16	C
160	150	16	IR	<b>735 798 842</b>	1.208	175	212	151	8	93	17	C
225	200	16	IR	<b>735 798 845</b>	2.210	235	268	207	11	102	22	C
250	250	16	IR	<b>735 798 846</b>	3.541	285	320	249	12	122	25	C
280	250	16	IR	<b>735 798 847</b>	3.583	291	320	249	13	122	25	C
315	300	16	IR	<b>735 798 848</b>	5.040	335	320	370	15	124	28	C

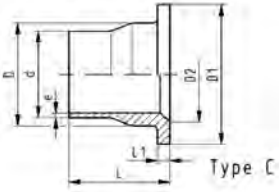
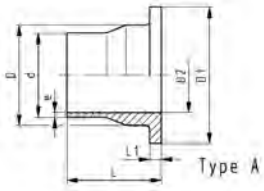
## SYGEF Plus flange adaptor JIS PN10



### Model:

- Material: PVDF-HP

d	DN	PN	FM	Code	Weight	e	Type	D2	D1	L	D	L1
(mm)	(mm)	(bar)			(kg)	(mm)		(mm)	(mm)	(mm)	(mm)	(mm)
140	125	10	IR	<b>735 805 936</b>	0.844	4.4	A	127	188	89	155	15
160	150	10	IR	<b>735 805 937</b>	0.998	4.9	C	151	212	92	175	16
225	200	10	IR	<b>735 805 940</b>	1.719	6.9	A	207	268	100	235	20



# Flanges and Gaskets



## Backing flange PP-V metric For butt fusion systems metric

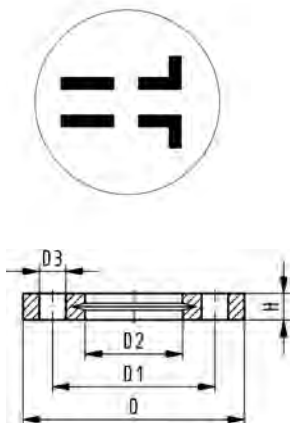
### Model:

- Full-plastic flange PP-GF (30 % glass-fibre reinforced)
- Connecting dimension: ISO 7005, EN 1092, BS 4504, DIN 2501
- **Bolt circle PN 10**

AL: number of holes

<sup>1)</sup> Suitable for socket- and butt fusion systems

\* Combined version, metric-ANSI



	d	DN	PN	Code	Weight	D	D1	D2	D3	H	AL	SC
	(mm)	(mm)	(bar)		(kg)	(mm)	(mm)	(mm)	(mm)	(mm)		
1	20	15	16	<b>727 700 406</b>	0.093	95	65	28	14	16	4	M12
1	25	20	16	<b>727 700 407</b>	0.120	105	75	34	14	17	4	M12
1	32	25	16	<b>727 700 408</b>	0.151	115	85	42	14	18	4	M12
1	40	32	16	<b>727 700 409</b>	0.244	140	100	51	18	20	4	M16
1	50	40	16	<b>727 700 410</b>	0.297	150	110	62	18	22	4	M16
1	63	50	16	<b>727 700 411</b>	0.362	165	125	78	18	24	4	M16
1	75	65	16	<b>727 700 412</b>	0.487	185	145	92	18	26	4	M16
	90	80	16	<b>727 700 513</b>	0.544	200	160	108	18	27	8	M16
	110	100	16	<b>727 700 514</b>	0.643	220	180	128	18	28	8	M16
	125	100	16	<b>727 700 515</b>	0.635	220	180	135	18	28	8	M16
	140	125	16	<b>727 700 516</b>	0.842	250	210	158	18	30	8	M16
*	160	150	16	<b>727 700 517</b>	1.200	285	241	178	22	32	8	M20
	180	150	16	<b>727 700 518</b>	1.200	285	240	188	22	32	8	M20
*	200	200	16	<b>727 700 519</b>	1.400	340	297	235	22	34	8	M20
*	225	200	16	<b>727 700 520</b>	1.400	340	297	238	22	34	8	M20
	250	250	16	<b>727 700 521</b>	2.052	395	350	288	22	38	12	M20
	280	250	16	<b>727 700 522</b>	1.700	395	350	294	22	38	12	M20
	315	300	16	<b>727 700 523</b>	2.400	445	400	338	22	42	12	M20
	355	350	10	<b>727 700 524</b>	4.440	515	460	376	22	46	16	M20
	400	400	10	<b>727 700 525</b>	5.624	574	515	430	26	50	16	M24



## Backing flange PP-V Inch ANSI For butt fusion systems metric

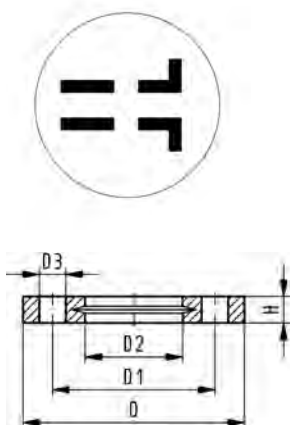
### Model:

- Full-plastic flange PP-GF (30 % glass-fibre reinforced)
- Connecting dimension: ANSI/ASME B 16.5 class 150, ASTM D 4024, BS 1560, BS EN 1759
- **Bolt circle class 150**
- Special flange adapter ANSI for d25 - d50 and d90 required

AL: number of holes

<sup>1)</sup> Suitable for socket- and butt fusion systems

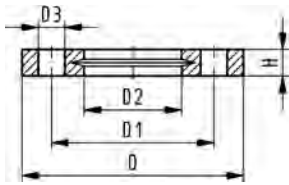
\* Combined version, metric-ANSI



	Size	d	DN	PN	Code	Weight	D	D1	D2	D3	H	AL	SC
	(inch)	(mm)	(mm)	(bar)		(kg)	(mm)	(mm)	(mm)	(mm)	(mm)		
1	½	20	15	16	<b>727 701 406</b>	0.091	95	60	28	16	16	4	M12
1	¾	25	20	16	<b>727 701 407</b>	0.120	105	70	34	16	17	4	M12
1	1	32	25	16	<b>727 701 408</b>	0.147	115	79	42	16	18	4	M12
1	1 ¼	40	32	16	<b>727 701 409</b>	0.246	140	89	51	16	20	4	M16
1	1 ½	50	40	16	<b>727 701 410</b>	0.299	150	98	62	16	22	4	M16
1	2	63	50	16	<b>727 701 411</b>	0.361	165	121	78	19	24	4	M16
1	2 ½	75	65	16	<b>727 701 412</b>	0.492	185	140	92	19	26	4	M16
	3	90	80	16	<b>727 701 513</b>	0.607	200	152	108	19	27	4	M16
	4	110	100	16	<b>727 701 514</b>	0.736	229	190	128	19	28	8	M16
*	6	160	150	16	<b>727 700 517</b>	1.200	285	241	178	22	32	8	M20
*	8	200	200	16	<b>727 700 519</b>	1.400	340	297	235	22	34	8	M20

table continued on the next page





	Size	d	DN	PN	Code	Weight	D	D1	D2	D3	H	AL	SC
	(inch)	(mm)	(mm)	(bar)		(kg)	(mm)	(mm)	(mm)	(mm)	(mm)		
*	8	225	200	16	<b>727 700 520</b>	1.400	340	297	238	22	34	8	M20
	10	250	250	16	<b>727 701 521</b>	2.241	406	362	288	26	38	12	M20
	10	280	250	16	<b>727 701 522</b>	2.173	406	362	294	26	38	12	M20
	12	315	300	16	<b>727 701 523</b>	3.627	483	432	338	26	42	12	M20



### Backing flange PP-Steel For butt fusion systems metric

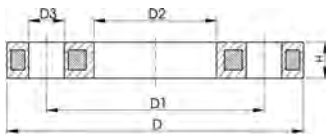
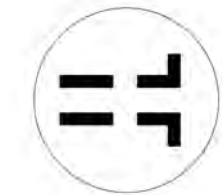
#### Model:

- Bolt circle PN 10
- Material: PP (30% glass-fibre reinforced) with steel ring
- UV-resistant. Applicable for outside applications
- Connecting dimension: ISO 7005, EN 1092, BS 4504, DIN 2501

AL: number of holes

\*Combined version, bolt circle metric - ANSI

\*\*Galvanized steel; suitable for underground laying



	d	d	DN	PN	Code	Weight	D	D1	D2	D3	H	AL	SC
	(mm)	(inch)	(mm)	(bar)		(kg)	(mm)	(mm)	(mm)	(mm)	(mm)		
	20		15	16	<b>727 700 206</b>	0.216	95	65	28	14	12	4	M12
	25		20	16	<b>727 700 207</b>	0.279	105	75	34	14	12	4	M12
	32		25	16	<b>727 700 208</b>	0.429	115	85	42	14	16	4	M12
	40		32	16	<b>727 700 209</b>	0.621	140	100	51	18	16	4	M16
	50		40	16	<b>727 700 210</b>	0.722	150	110	62	18	20	4	M16
	63		50	16	<b>727 700 211</b>	1.084	165	125	78	18	20	4	M16
	75		65	16	<b>727 700 212</b>	1.349	185	145	92	18	20	4	M16
	90		80	16	<b>727 700 313</b>	1.390	200	160	108	18	20	8	M16
	110		100	16	<b>727 700 314</b>	1.407	220	180	128	18	20	8	M16
	125		100	16	<b>727 700 315</b>	1.408	220	180	135	18	20	8	M16
	140		125	16	<b>727 700 716</b>	2.318	250	210	158	18	26	8	M16
*	160	6	150	16	<b>727 700 717</b>	3.491	285	241	178	22	26	8	M20
	180		150	16	<b>727 700 718</b>	3.108	285	241	188	22	26	8	M20
*	200	8	200	16	<b>727 700 719</b>	5.600	340	297	235	22	29	8	M20
*	225	8	200	16	<b>727 700 720</b>	5.533	340	297	238	22	29	8	M20
	250		250	16	<b>727 700 721</b>	6.632	395	350	288	22	32	12	M20
	280		250	16	<b>727 700 722</b>	6.573	395	350	294	22	32	12	M20
	315		300	16	<b>727 700 723</b>	7.903	445	400	338	22	36	12	M20
	355		350	16	<b>727 700 724</b>	14.587	515	460	376	23	42	16	M20
	400		400	16	<b>727 700 725</b>	20.034	574	515	430	26	42	16	M24
**	450		450	10	<b>724 705 026</b>	38.000	615	565	470	26	36	20	M24



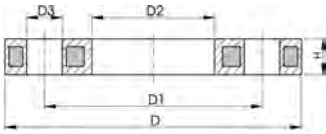
### Backing flange PP-Steel Inch/ANSI For butt fusion systems metric

**Model:**

- Material: PP (30% glass-fibre reinforced) with steel ring
- Connecting dimension: ANSI/ASME B 16.5 class 150, ASTM D 4024, BS 1560, BS EN 1759
- **Bolt circle class 150**
- Special flange adapter ANSI for d25 - d50 and d90 required

\*Combined version, bolt circle metric - ANSI

AL: number of holes



d (inch)	d (mm)	DN (mm)	PN (bar)	Code	Weight (kg)	D (mm)	D1 (mm)	D2 (mm)	D3 (mm)	H (mm)	AL	SC	
1/2	20	15	16	<b>727 701 206</b>	0.213	95	60	28	16	12	4	M12	
3/4	25	20	16	<b>727 701 207</b>	0.260	105	70	34	16	12	4	M12	
1	32	25	16	<b>727 701 208</b>	0.416	115	79	42	16	16	4	M12	
1 1/4	40	32	16	<b>727 701 209</b>	0.730	140	89	51	16	16	4	M16	
1 1/2	50	40	16	<b>727 701 210</b>	0.809	150	98	62	16	18	4	M16	
2	63	50	16	<b>727 701 211</b>	0.866	165	121	78	19	18	4	M16	
2 1/2	75	65	16	<b>727 701 212</b>	1.117	185	140	92	19	18	4	M16	
3	90	80	16	<b>727 701 313</b>	1.499	200	152	108	19	20	4	M16	
4	110	100	16	<b>727 701 314</b>	1.739	229	190	128	19	20	8	M16	
*	6	160	150	16	<b>727 700 717</b>	3.491	285	241	178	22	26	8	M20
*	8	200	200	16	<b>727 700 719</b>	5.600	340	297	235	22	29	8	M20
*	8	225	200	16	<b>727 700 720</b>	5.533	340	297	238	22	29	8	M20
	10	250/280	250	10	<b>727 701 321</b>	6.000	406	362	293	25	30	12	M24
	12	315	300	10	<b>727 701 322</b>	11.800	483	432	338	25	34	12	M24
	14	355	350	10	<b>727 701 323</b>	17.900	540	476	376	29	42	12	M27
	16	400	400	10	<b>727 701 324</b>	24.500	597	539	429	29	44	16	M27
	20	450/500	500	10	<b>727 701 325</b>	33.600	712	635	540	32	53	20	M30



### Profiled backing flange PP-Steel metric For butt fusion systems metric

**Model:**

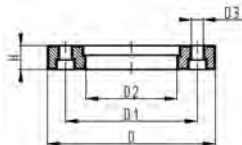
- PP with glass-fibre reinforcement and GGG 50 insert
- Connecting dimensions: ISO 7005, EN 1092, DIN 2501
- **Bolt circle PN 10**

**Note:**

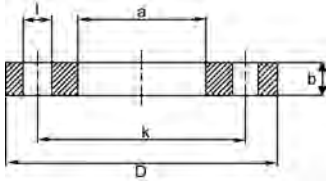
flat side = bolt side profiled side = flange adaptor side

AL: number of holes

\* Galvanized steel S235-JR, suitable for underground laying



d (mm)	DN (mm)	PN (bar)	Code	Weight (kg)	D (mm)	D1 (mm)	D2 (mm)	D3 (mm)	H (mm)	AL	SC	
*	450	450	10	<b>724 705 026</b>	38.000	615	565	470	26	36	20	M24
	450	500	10	<b>724 700 426</b>	25.600	685	620	517	26	56	20	M24

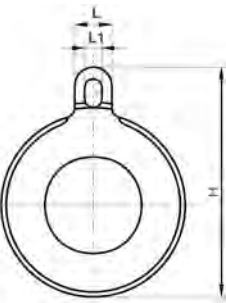


### PVDF Coated Steel for Butt Fusion Systems Inch/ANSI Flange Ring blue coated steel

**Material: PVDF blue coated steel**

Bolt holes drilled in accordance with ANSI B16.5, Class 150 pattern

d	Size	Code	D	a	k	b	l	Bolt Holes
(mm)	(inch)		(inch)	(inch)	(inch)	(inch)	(inch)	
20	¾	155 701 806	3.50	1.10	2.36	0.28	0.63	4
25	¾	155 701 807	3.86	1.34	2.76	0.28	0.63	4
32	1	155 701 808	4.25	1.65	3.11	0.28	0.63	4
40	1 ¼	155 701 809	4.61	2.01	3.50	0.32	0.63	4
50	1 ½	155 701 810	5.00	2.44	3.86	0.32	0.63	4
63	2	155 701 811	5.98	3.07	4.76	0.39	0.75	4
75	2 ½	155 701 812	7.01	3.62	5.51	0.39	0.75	4
90	3	155 701 813	7.48	4.33	5.98	0.39	0.75	4
110	4	155 703 814	9.02	5.24	7.48	0.39	0.75	8
160	6	155 701 917	10.98	7.05	9.48	0.50	0.88	8
200	8	155 701 919	13.50	9.30	11.73	0.63	0.88	8
225	9	155 701 920	13.50	9.42	11.73	0.63	0.88	8
250	10	155 701 921	16.00	11.35	14.25	0.88	0.88	12
315	12	155 701 923	19.00	13.31	17.00	1.00	1.00	12
355	14	155 701 924	21.00	14.80	18.75	1.00	1.00	12
400	16	155 701 925	23.50	16.93	21.25	1.13	1.13	16



### SYGEF Plus Gasket

**Model:**

- For Use with Steel Flange Rings
- \* Non-Returnable/Non-Cancelable

d	Pipe Size	Code	Weight	H	L	L1
(mm)	(inch)		(lb)	(inch)	(inch)	(inch)
25	¾	731 400 753	0.002	2.99	0.79	0.51
32	1	731 400 755	0.053	3.58	0.98	0.63
40	1 ¼	731 400 757	0.079	3.98	0.98	0.63
50	1 ½	731 400 759	0.084	4.33	0.98	0.63
63	2	731 400 760	0.132	5.04	0.98	0.63
75	2 ½	731 400 761	0.179	5.83	0.98	0.63
90	3	731 400 763	0.132	6.34	0.98	0.63
110	4	731 400 764	0.220	7.44	0.98	0.63
160	6	731 400 667	0.309	9.61	1.18	0.79
200/225	8/9	731 400 670	0.441	11.81	1.18	0.79
250	10	731 400 671	0.002	14.17	1.38	0.87
315	12	731 400 672	0.650	16.50	1.38	0.87

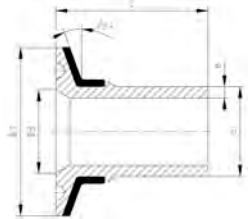
## Sanitary adaptors



### SYGEF Plus sanitary adaptor With stainless reinforcement SDR21/PN16 Ferrule ISO 1127

#### Model:

- Material: PVDF-HP
- \* Model without chamfer



d (mm)	FM	DN (mm)	PN (bar)	Code	Weight (kg)	D3 (mm)	D1 (mm)	e (mm)	L (mm)	
20	BCF, IR	15	16	<b>735 598 006</b>	0.032	18	51	2	50	
25	BCF, IR	20	16	<b>735 598 008</b>	0.042	23	51	2	55	
25	BCF, IR	25	16	<b>735 598 009</b>	0.041	30	51	2	55	
32	BCF, IR	25	16	<b>735 598 010</b>	0.045	30	51	2	57	
40	BCF, IR	32	16	<b>735 598 014</b>	0.073	38	64	2	67	
*	50	BCF, IR	40	16	<b>735 598 016</b>	0.083	44	64	3	68
*	63	BCF, IR	50	16	<b>735 598 018</b>	0.107	56	78	3	71



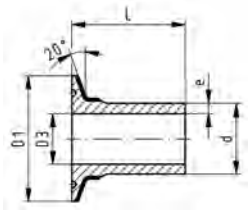
### SYGEF Plus sanitary adaptor With stainless reinforcement SDR21/PN16 For PVDF-PVDF connection

#### Model:

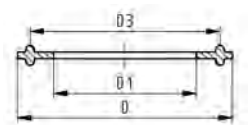
- Material: PVDF-HP
- without chamfer for complete evacuation even in horizontal installation

#### Note:

to be connected with standard clamp - please see dimension D1



d (mm)	FM	PN (bar)	Code	Weight (kg)	L (mm)	e (mm)	D1 (mm)	D3 (mm)
20	BCF, IR	16	<b>735 598 806</b>	0.041	49	2	51	17
25	BCF, IR	16	<b>735 598 807</b>	0.044	55	2	51	20
32	BCF, IR	16	<b>735 598 808</b>	0.061	57	2	51	26
40	BCF, IR	16	<b>735 598 809</b>	0.079	67	2	64	33
50	BCF, IR	16	<b>735 598 810</b>	0.090	68	3	64	42
63	BCF, IR	16	<b>735 598 811</b>	0.118	71	3	78	55



### Gasket PTFE

#### Model:

- Special gaskets for sanitary adaptors PVDF-PVDF connection only

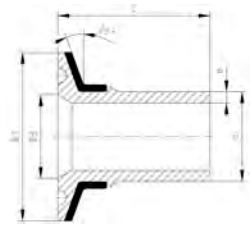
d (mm)	Code	Weight (kg)	D1 (mm)	D3 (mm)	D (mm)
20	<b>743 400 806</b>	0.018	17	44	51
25	<b>743 400 807</b>	0.017	20	44	51
32	<b>743 400 808</b>	0.017	26	44	51
40	<b>743 400 809</b>	0.022	34	57	64
50	<b>743 400 810</b>	0.019	43	57	64
63	<b>743 400 811</b>	0.027	55	71	78



**SYGEF Plus sanitary adaptor**  
**With stainless reinforcement SDR21/PN16**  
**Ferrule for mebrane manometer**

**Model:**

- Material: PVDF-HP



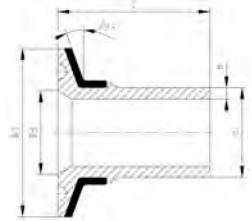
d (mm)	DN (mm)	PN (bar)	FM	Code	Weight (kg)	D1 (mm)	D3 (mm)	L (mm)	e (mm)
20	15	16	BCF, IR	<b>735 598 506</b>	0.038	51	34	49	1.9
25	20	16	BCF, IR	<b>735 598 508</b>	0.041	51	34	55	1.9
32	25	16	BCF, IR	<b>735 598 510</b>	0.045	51	34	57	2.4



**SYGEF Plus sanitary adaptor**  
**With stainless reinforcement SDR21/PN16**  
**JIS G3447**

**Model:**

- Material: PVDF-HP



DN	FM	d (mm)	PN (bar)	Code	Weight (kg)	D3 (mm)	D1 (mm)	e (mm)	L (mm)
15 A	BCF, IR	20	16	<b>735 598 406</b>	0.020	18	34	1.9	49
1 S	BCF, IR	25	16	<b>735 598 408</b>	0.042	23	51	1.9	55
1 1/4 S	BCF, IR	32	16	<b>735 598 410</b>	0.045	30	51	2.4	57
1 1/2 S	BCF, IR	40	16	<b>735 598 414</b>	0.047	35	51	2.4	67
2 S	BCF, IR	50	16	<b>735 598 416</b>	0.082	48	64	3.0	68
2 1/2 S	BCF, IR	63	16	<b>735 598 418</b>	0.107	60	78	3.0	71



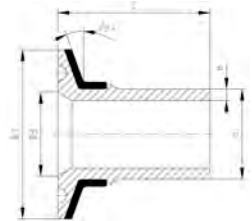
**SYGEF Plus sanitary adaptor**  
**With stainless reinforcement SDR21/PN16**  
**ASME BPE**

**Model:**

- Material: PVDF-HP

<sup>1</sup> Model without stainless reinforcement

\* Model without chamfer



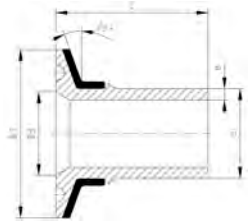
d (mm)	Size (inch)	PN (bar)	FM	Code	Weight (kg)	e (mm)	D1 (mm)	D3 (mm)	L (mm)	
1*	20	¾	16	BCF, IR	<b>735 598 357</b>	0.011	1.9	25	16	49
	25	1	16	BCF, IR	<b>735 598 359</b>	0.042	1.9	51	22	55
	32	1 ½	16	BCF, IR	<b>735 598 362</b>	0.061	2.4	51	35	57
	40	1 ½	16	BCF, IR	<b>735 598 365</b>	0.047	2.4	51	36	57
	50	2	16	BCF, IR	<b>735 598 367</b>	0.118	3.0	64	48	68
	63	2 ½	16	BCF, IR	<b>735 598 369</b>	0.142	3.0	78	60	71



**SYGEF Plus sanitary adaptor**  
**With stainless reinforcement SDR21/PN16**  
**ISO 2852**

**Model:**

- Material: PVDF-HP



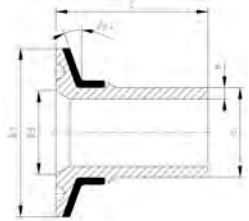
	FM	DN	d	PN	Code	Weight	D3	e	D1	L
	(mm)	(mm)	(bar)			(kg)	(mm)	(mm)	(mm)	(mm)
BCF, IR	25	25	16	<b>735 598 309</b>	0.042	22	1.9	51	55	
BCF, IR	32	32	16	<b>735 598 312</b>	0.045	32	2.4	51	57	
BCF, IR	40	40	16	<b>735 598 315</b>	0.047	36	2.4	51	67	
BCF, IR	50	50	16	<b>735 598 317</b>	0.081	49	3.0	64	68	
BCF, IR	65	63	16	<b>735 598 319</b>	0.107	60	3.0	78	71	



**SYGEF Plus sanitary adaptor**  
**With stainless reinforcement PN16**  
**DIN 3017**

**Model:**

- Material: PVDF-HP



	DN	d	FM	PN	Code	Weight	e	D1	D3	L
	(mm)	(mm)		(bar)		(kg)	(mm)	(mm)	(mm)	(mm)
	25	25	BCF, IR	16	<b>735 598 259</b>	0.042	1.9	51	22	55
	32	32	BCF, IR	16	<b>735 598 262</b>	0.042	2.4	51	32	57
	40	40	BCF, IR	16	<b>735 598 265</b>	0.047	2.4	51	36	67
	50	50	BCF, IR	16	<b>735 598 267</b>	0.081	3.0	64	49	68
	65	63	BCF, IR	16	<b>735 598 269</b>	0.107	3.0	78	60	71



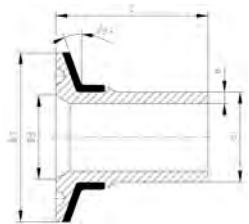
**SYGEF Plus sanitary adaptor**  
**With stainless reinforcement SDR21/PN16**  
**Ferrule 3A Standard**

**Model:**

- Material: PVDF-HP

<sup>1</sup> Model without stainless reinforcement

\* Model without chamfer



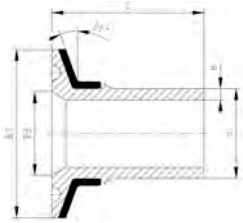
	d	PN	Inch	FM	Code	Weight	L	e	D1	D3
	(mm)	(bar)	(inch)			(kg)	(mm)	(mm)	(mm)	(mm)
1*	20	16	3/4	BCF, IR	<b>735 598 207</b>	0.011	50	1.9	25	16
*	25	16	1	BCF, IR	<b>735 598 209</b>	0.054	55	1.9	51	22
	32	16	1 1/2	BCF, IR	<b>735 598 213</b>	0.044	57	2.4	51	35
	40	16	1 1/2	BCF, IR	<b>735 598 215</b>	0.047	67	2.4	51	36
	50	16	2	BCF, IR	<b>735 598 217</b>	0.082	68	3.0	64	48
	63	16	2 1/2	BCF, IR	<b>735 598 219</b>	0.107	71	3.0	78	60



**SYGEF Plus sanitary adaptor**  
**With stainless reinforcement SDR21/PN16**  
**Ferrule BS Inch 4825**

**Model:**

- Material: PVDF-HP
- \* Model without chamfer



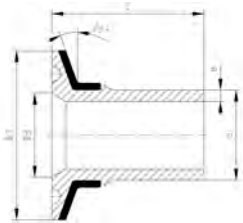
	Inch (inch)	FM	PN (bar)	d (mm)	Code	Weight (kg)	D1 (mm)	D3 (mm)	e (mm)	L (mm)
	3/4	BCF, IR	16	20	<b>735 598 157</b>	0.040	51	22	1.9	50
*	1	BCF, IR	16	25	<b>735 598 159</b>	0.055	51	22	1.9	55
	1 1/2	BCF, IR	16	32	<b>735 598 163</b>	0.044	51	35	2.4	57
	1 1/2	BCF, IR	16	40	<b>735 598 165</b>	0.047	51	36	2.4	67
	2	BCF, IR	16	50	<b>735 598 167</b>	0.082	64	48	3.0	68
	2 1/2	BCF, IR	16	63	<b>735 598 169</b>	0.107	78	60	3.0	71



**SYGEF Plus sanitary adaptor**  
**With stainless reinforcement SDR21/PN16**  
**Ferrule DIN 32676**

**Model:**

- Material: PVDF-HP
- \* Model without chamfer



	d (mm)	FM	DN (mm)	PN (bar)	Code	Weight (kg)	D3 (mm)	L (mm)	e (mm)	D1 (mm)
*	20	BCF, IR	15	16	<b>735 598 056</b>	0.020	16	50	2	34
	20	BCF, IR	20	16	<b>735 598 057</b>	0.020	20	50	2	34
	25	BCF, IR	25	16	<b>735 598 059</b>	0.056	26	55	2	51
	32	BCF, IR	32	16	<b>735 598 062</b>	0.045	32	57	2	51
	40	BCF, IR	40	16	<b>735 598 065</b>	0.047	38	67	2	51
	50	BCF, IR	50	16	<b>735 598 067</b>	0.081	50	68	3	64

# Installation fittings



## SYGEF Plus Installation fitting with sanitary adaptor SDR21/PN16

### Model:

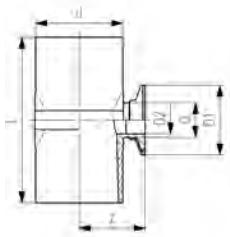
- without chamfer for complete evacuation even in horizontal installation
- Material: PVDF-HP
- d [mm] = main line
- D [mm] = connector line

### Range of use:

- for pressure gauges
- for sampling valves
- for sanitary adaptor PVDF connection

### Note:

\* machined T



	d (mm)	D (mm)	FM	PN	Code	Weight (kg)	L (mm)	D2 (mm)	D1 (mm)	Z (mm)
*	20	20	BCF, IR	16	<b>735 318 101</b>	0.100	110	34.1	50.5	32.7
*	25	25	BCF, IR	16	<b>735 318 202</b>	0.097	110	34.1	50.5	35.2
*	32	32	BCF, IR	16	<b>735 318 303</b>	0.138	124	34.1	50.5	38.7
*	40	25	BCF, IR	16	<b>735 318 204</b>	0.100	124	19.9	50.5	42.7
*	40	32	BCF, IR	16	<b>735 318 304</b>	0.100	124	25.6	50.5	42.7
*	50	25	BCF, IR	16	<b>735 318 205</b>	0.100	124	19.9	50.5	47.7
*	50	32	BCF, IR	16	<b>735 318 305</b>	0.100	124	25.6	50.5	47.7
*	50	50	BCF, IR	16	<b>735 318 505</b>	0.100	124	42.2	64.0	47.7
	63	25	BCF, IR	16	<b>735 318 206</b>	0.258	120	19.9	50.5	54.2
	63	32	BCF, IR	16	<b>735 318 306</b>	0.269	120	25.6	50.5	54.2
*	63	50	BCF, IR	16	<b>735 318 506</b>	0.100	120	42.2	64.0	54.2
*	63	63	BCF, IR	16	<b>735 318 606</b>	0.100	138	55.1	77.5	54.2
	75	25	BCF, IR	16	<b>735 318 207</b>	0.352	130	19.9	50.5	60.2
	75	32	BCF, IR	16	<b>735 318 307</b>	0.357	130	25.6	50.5	60.2
	75	50	BCF, IR	16	<b>735 318 507</b>	0.402	130	42.2	64.0	60.2
*	75	63	BCF, IR	16	<b>735 318 607</b>	0.619	130	55.1	77.5	60.2
	90	25	BCF, IR	16	<b>735 318 208</b>	0.449	130	19.9	50.5	67.7
	90	32	BCF, IR	16	<b>735 318 308</b>	0.454	130	25.6	50.5	67.7
	90	50	BCF, IR	16	<b>735 318 508</b>	0.496	130	42.2	64.0	67.7
	90	63	BCF, IR	16	<b>735 318 608</b>	0.658	138	55.1	77.5	67.7
	110	25	BCF, IR	16	<b>735 318 209</b>	0.614	130	19.9	50.5	77.7
	110	32	BCF, IR	16	<b>735 318 309</b>	0.619	130	25.6	50.5	77.7
	110	50	BCF, IR	16	<b>735 318 509</b>	0.662	130	42.2	64.0	77.7
	110	63	BCF, IR	16	<b>735 318 609</b>	0.686	180	55.1	77.5	109.0



# SYGEF Plus

## Valves



# Valves SYGEF Plus

## SYGEF Plus metric/ASTM/ANSI

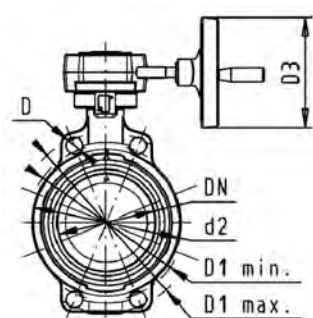
### Hand-operated valves



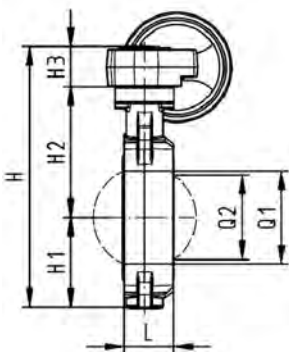
**SYGEF Plus**  
Butterfly valve type 567  
Reduction gear with handwheel

**Model:**

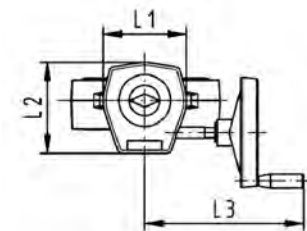
- Material: PVDF-HP
- Overall length according to EN 558, ISO 5752
- Connecting dimension: ISO 7005 PN 10, EN 1092 PN 10, DIN 2501 PN 10, ANSI/ASME B 16.5 Class 150, BS 1560: 1989, BS 4504, JIS B 2220



d	Size	DN	PN	kv-value	PTFE	Weight
(mm)	(inch)	(mm)	(bar)	( $\Delta p=1$ bar)	Code	(kg)
				(L/min)		
63	2	50	10	1470	<b>175 567 622</b>	3.118
75	2 1/2	65	10	2200	<b>175 567 623</b>	3.230
90	3	80	10	3000	<b>175 567 624</b>	3.410
110	4	100	10	6500	<b>175 567 625</b>	4.062
140	5	125	10	11500	<b>175 567 626</b>	4.657
160	6	150	10	16600	<b>175 567 627</b>	5.877
225	8	200	10	39600	<b>175 567 628</b>	7.998
280	10	250	10	55200	<b>175 567 629</b>	12.884
315	12	300	10	80000	<b>175 567 630</b>	20.763



d	d2	D	D1	D1	D3	H	H1	H2	H3	L	L1	L2	L3	Q1
(mm)	(mm)	(mm)	min.	max.	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
			(mm)	(mm)										
63	104	19	120	125	150	278	77	134	50	45	110	120	155	40
75	115	19	140	145	150	291	83	140	50	46	110	120	155	54
90	131	19	150	160	150	303	89	146	50	49	110	120	155	67
110	160	19	175	191	150	339	104	167	50	56	110	120	155	88
140	187	23	210	216	150	365	117	181	50	64	110	120	155	113
160	215	24	241	241	150	387	130	189	50	72	110	120	155	139
225	267	23	290	295	150	436	158	210	50	73	110	120	155	178
280	329	25	353	362	200	529	205	264	55	113	130	140	200	210
315	379	25	400	432	200	573	228	285	55	113	130	140	200	256



d	Q2
(mm)	(mm)
63	
75	35
90	50
110	74
140	97
160	123
225	169
280	207
315	253

**SYGEF Plus**  
**Diaphragm valve type 514**  
**With butt fusion spigots metric**

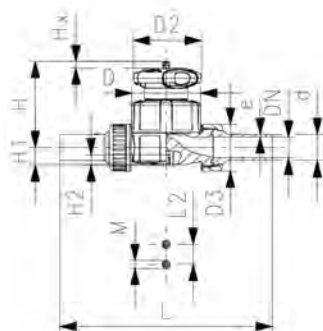


**Model:**

- Material: PVDF-HP
- Ideally suited for High Purity applications, recommended for oxidizing acids.
- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Handwheel with built-in locking mechanism
- For easy installation and removal
- Short overall length

**Option:**

- Individual configuration of the valve (see diagram)
- Self adjusting multifunctional module with integrated limit switches



d (mm)	DN (mm)	PN (bar)	kv-value ( $\Delta p=1$ bar) (l/min)	PTFE/EPDM Code	Weight (kg)
20	15	16	125	<b>180 514 132</b>	0.399
25	20	16	271	<b>180 514 133</b>	0.597
32	25	16	481	<b>180 514 134</b>	1.111
40	32	16	759	<b>180 514 135</b>	1.286
50	40	16	1263	<b>180 514 136</b>	2.989
63	50	16	1728	<b>180 514 137</b>	3.164

d (mm)	D (mm)	D2 (mm)	D3 (mm)	H (mm)	H1 (mm)	H2 (mm)	L (mm)	L2 (mm)	M	e (mm)	Lift = Hx (mm)	closest inch (inch)
20	65	65	43	73	14	12	196	25	M6	1.9	7	½
25	80	65	53	81	18	12	221	25	M6	1.9	10	¾
32	88	87	60	107	22	12	234	25	M6	2.4	13	1
40	101	87	74	115	26	15	260	45	M8	2.4	15	1 ¼
50	117	135	82	148	32	15	284	45	M8	3.0	19	1 ½
63	144	135	100	166	39	15	321	45	M8	3.0	25	2



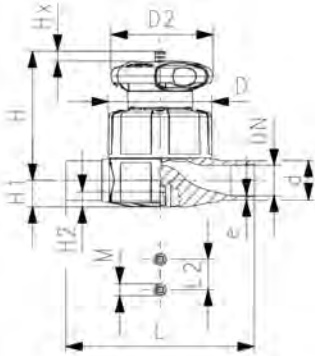
**SYGEF Plus**  
**Diaphragm valve type 515**  
**With butt fusion spigots metric**

**Model:**

- Material: PVDF-HP
- Ideally suited for High Purity applications, recommended for oxidizing acids.
- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Handwheel with built-in locking mechanism
- Overall length EN 558

**Option:**

- Individual configuration of the valve (see diagram)
- Self adjusting multifunctional module with integrated limit switches



d (mm)	DN (mm)	PN (bar)	kv-value ( $\Delta p=1$ bar) (L/min)	PTFE/EPDM Code	Weight (kg)
20	15	16	125	<b>180 515 132</b>	0.295
25	20	16	271	<b>180 515 133</b>	0.438
32	25	16	481	<b>180 515 134</b>	0.870
40	32	16	759	<b>180 515 135</b>	0.944
50	40	16	1263	<b>180 515 136</b>	1.846
63	50	16	1728	<b>180 515 137</b>	2.512

d (mm)	D (mm)	D2 (mm)	H (mm)	H1 (mm)	H2 (mm)	L (mm)	L2 (mm)	M	e (mm)	Lift = Hx (mm)	closest inch (inch)
20	65	65	73	14	12	124	25	M4	1.9	7	½
25	80	65	81	18	12	144	25	M4	1.9	10	¾
32	88	87	107	22	12	155	25	M4	2.4	13	1
40	101	87	115	26	15	176	45	M8	2.4	15	1 ¼
50	117	135	148	32	15	193	45	M8	3.0	19	1 ½
63	144	135	166	39	15	223	45	M8	3.0	25	2

**SYGEF Plus**  
**Diaphragm valve type 519**  
**With butt fusion spigots metric**

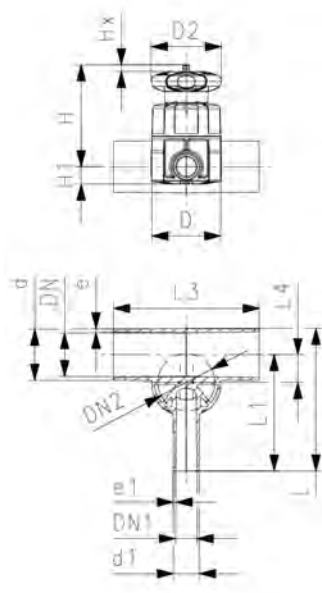


**Model:**

- Material: PVDF-HP
- Ideally suited for High Purity applications
- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Handwheel with built-in locking mechanism
- Smallest possible dead space
- **For water use only**
- Not suitable for oxidizing acids

**Option:**

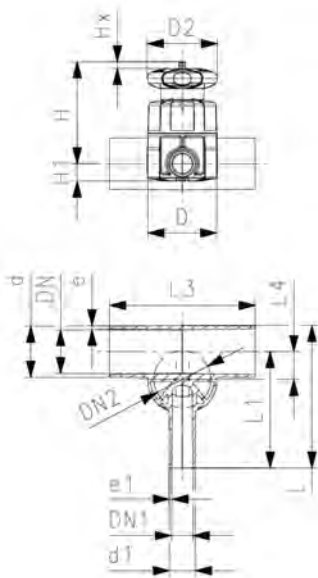
- Individual configuration of the valve (see diagram)
- Self adjusting multifunctional module with integrated limit switches



d (mm)	d1 (mm)	Valve Size d (mm)	DN (mm)	DN1 (mm)	DN2 (mm)	PN (bar)	kv-value ( $\Delta p=1$ bar) (L/min)	PTFE/EPDM Code	Weight (kg)
20	20	20	15	15	15	16	57	<b>180 519 301</b>	0.350
25	20	25	20	15	20	16	89	<b>180 519 303</b>	0.476
25	25	25	20	20	20	16	118	<b>180 519 304</b>	0.633
32	20	25	25	15	20	16	80	<b>180 519 307</b>	0.692
32	25	25	25	20	20	16	105	<b>180 519 308</b>	0.721
32	32	32	25	25	25	16	231	<b>180 519 309</b>	0.889
40	20	32	32	15	25	16	85	<b>180 519 312</b>	0.963
40	25	32	32	20	25	16	119	<b>180 519 313</b>	0.812
40	32	32	32	25	25	16	153	<b>180 519 314</b>	0.845
40	40	32	32	32	25	16	187	<b>180 519 315</b>	0.866
50	20	25	40	15	20	16	86	<b>180 519 318</b>	0.789
50	25	32	40	20	25	16	160	<b>180 519 319</b>	0.905
50	32	32	40	25	25	16	206	<b>180 519 320</b>	0.926
50	40	63	40	32	50	16	524	<b>180 519 321</b>	2.381
50	50	63	40	40	50	16	667	<b>180 519 322</b>	2.387
63	20	25	50	15	20	16	84	<b>180 519 325</b>	0.784
63	25	32	50	20	25	16	150	<b>180 519 326</b>	1.411
63	32	32	50	25	25	16	184	<b>180 519 327</b>	1.018
63	40	63	50	32	50	16	471	<b>180 519 328</b>	2.606
63	50	63	50	40	50	16	610	<b>180 519 329</b>	2.884
63	63	63	50	50	50	16	747	<b>180 519 330</b>	2.653
90	20	32	80	15	25	16	82	<b>180 519 341</b>	1.304
90	25	32	80	20	25	16	103	<b>180 519 342</b>	1.703
90	32	32	80	25	25	16	129	<b>180 519 343</b>	1.719
90	50	63	80	40	50	16	623	<b>180 519 345</b>	3.164
90	63	63	80	50	50	16	696	<b>180 519 346</b>	3.172
110	20	32	100	15	25	16	78	<b>180 519 351</b>	1.966
110	25	32	100	20	25	16	103	<b>180 519 352</b>	1.972
110	32	32	100	25	25	16	131	<b>180 519 353</b>	1.975
110	50	63	100	40	50	16	604	<b>180 519 355</b>	3.491
110	63	63	100	50	50	16	661	<b>180 519 356</b>	3.580

d (mm)	D (mm)	D2 (mm)	H (mm)	H1 (mm)	L (mm)	L1 (mm)	L3 (mm)	L4 (mm)	e (mm)	e1 (mm)	Lift = Hx (mm)	closest inch (inch)
20	65	65	75	14.0	117	96	162	12	1.9	1.9	7	½
25	80	65	80	17.5	133	108	162	16	1.9	1.9	10	¾
25	80	65	80	17.5	133	108	162	16	1.9	1.9	10	¾
32	80	65	84	21.5	142	120	162	19	2.4	1.9	10	1
32	80	65	84	21.5	142	120	162	19	2.4	1.9	10	1
32	88	87	107	21.5	145	120	160	19	2.4	2.4	13	1
40	88	87	115	21.5	149	128	180	23	2.4	1.9	13	1 ¼
40	88	87	115	21.5	149	128	180	23	2.4	1.9	13	1 ¼
40	88	87	115	21.5	149	128	180	23	2.4	2.4	13	1 ¼
40	88	87	115	21.5	174	153	180	23	2.4	2.4	13	1 ¼
50	80	65	97	17.5	160	134	180	27	3.0	1.9	10	1 ½

table continued on the next page



d (mm)	D (mm)	D2 (mm)	H (mm)	H1 (mm)	L (mm)	L1 (mm)	L3 (mm)	L4 (mm)	e (mm)	e1 (mm)	Lift = Hx (mm)	closest inch (inch)
50	88	87	120	21.5	160	134	180	28	3.0	1.9	13	1 ½
50	88	87	120	21.5	160	134	180	28	3.0	2.4	13	1 ½
50	144	135	164	32.0	209	169	209	33	3.0	2.4	25	1 ½
50	144	135	164	32.0	209	169	209	33	3.0	3.0	25	1 ½
63	80	65	104	17.5	177	144	180	33	3.0	1.9	10	2
63	88	87	127	21.5	177	144	180	35	3.0	1.9	13	2
63	88	87	127	21.5	177	144	180	35	3.0	2.4	13	2
63	144	135	170	39.0	225	192	220	39	3.0	2.4	25	2
63	144	135	170	39.0	225	192	220	39	3.0	3.0	25	2
63	144	135	170	39.0	225	192	220	39	3.0	3.0	25	2
90	88	87	140	21.5	205	159	190	47	4.3	1.9	13	3
90	88	87	140	21.5	205	159	190	47	4.3	1.9	13	3
90	88	87	140	21.5	205	159	190	47	4.3	2.4	13	3
90	144	135	184	39.0	254	207	250	51	4.3	3.0	25	3
90	144	135	184	39.0	254	207	250	51	4.3	3.0	25	3
110	88	87	149	21.5	227	171	190	56	5.3	1.9	13	4
110	88	87	149	21.5	227	171	190	56	5.3	1.9	13	4
110	88	87	149	21.5	227	171	190	56	5.3	2.4	13	4
110	144	135	194	39.0	276	219	250	60	5.3	3.0	25	4
110	144	135	194	39.0	276	219	250	60	5.3	3.0	25	4



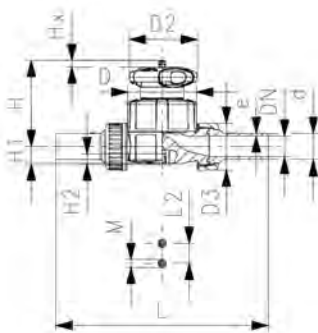
**SYGEF Plus**  
**Diaphragm valve type 514**  
**With butt fusion spigots metric**

**Model:**

- Material: PVDF-HP
- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Handwheel with built-in locking mechanism
- For easy installation and removal
- Short overall length

**Option:**

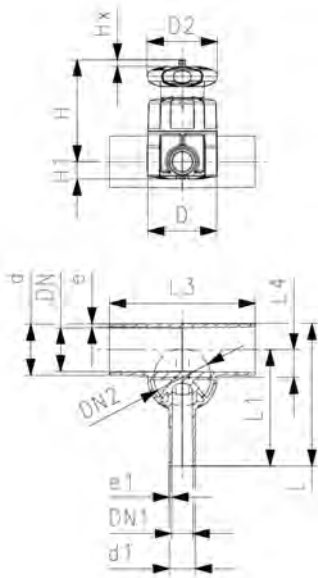
- Individual configuration of the valve (see diagram)
- Self adjusting multifunctional module with integrated limit switches



d (mm)	DN (mm)	PN (bar)	kv-value (Δp=1 bar) (l/min)	PTFE/EPDM Code	PTFE/FPM Code	Weight (kg)
20	15	10	125	181 514 132	181 514 152	0.399
25	20	10	271	181 514 133	181 514 153	0.597
32	25	10	481	181 514 134	181 514 154	1.111
40	32	10	759	181 514 135	181 514 155	1.286
50	40	10	1263	181 514 136	181 514 156	2.989
63	50	10	1728	181 514 137	181 514 157	3.164

d (mm)	D (mm)	D2 (mm)	D3 (mm)	H (mm)	H1 (mm)	H2 (mm)	L (mm)	L2 (mm)	M	e (mm)	Lift = Hx (mm)	closest inch (inch)
20	65	65	43	73	14	12	196	25	M6	1.9	7	½
25	80	65	53	81	18	12	221	25	M6	1.9	10	¾
32	88	87	60	107	22	12	234	25	M6	2.4	13	1
40	101	87	74	115	26	15	260	45	M8	2.4	15	1 ¼
50	117	135	82	148	32	15	284	45	M8	3.0	19	1 ½
63	144	135	100	166	39	15	321	45	M8	3.0	25	2





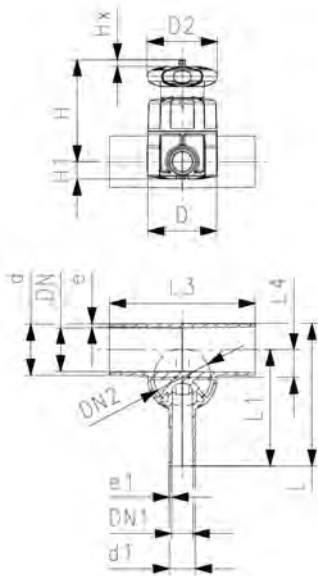
d (mm)	DN (mm)	PN (bar)	kv-value ( $\Delta p=1$ bar) (L/min)	PTFE/EPDM Code	PTFE/FPM Code	Weight (kg)
50	40	10	667	181 519 322	181 519 522	2.387
63	50	10	84	181 519 325	181 519 525	0.784
63	50	10	150	181 519 326	181 519 526	1.411
63	50	10	184	181 519 327	181 519 527	1.018
63	50	10	471	181 519 328	181 519 528	2.606
63	50	10	610	181 519 329	181 519 529	3.458
63	50	10	747	181 519 330	181 519 530	2.653
90	80	10	82	181 519 341	181 519 541	1.304
90	80	10	103	181 519 342	181 519 542	1.703
90	80	10	129	181 519 343	181 519 543	1.719
90	80	10	623	181 519 345	181 519 545	3.164
90	80	10	696	181 519 346	181 519 546	3.172
110	100	10	78	181 519 351	181 519 551	1.966
110	100	10	103	181 519 352	181 519 552	1.972
110	100	10	131	181 519 353	181 519 553	1.975
110	100	10	604	181 519 355	181 519 555	4.327
110	100	10	661	181 519 356	181 519 556	3.580

d (mm)	D (mm)	D2 (mm)	H (mm)	H1 (mm)	L (mm)	L1 (mm)	L3 (mm)	L4 (mm)	e (mm)	Lift = Hx (mm)	closest inch (inch)	d1 (mm)	Valve Size d (mm)
20	65	65	75	14.0	117	96	162	12	1.9	7	1/2	20	20
25	80	65	80	17.5	133	108	162	16	1.9	10	3/4	20	25
25	80	65	80	17.5	133	108	162	16	1.9	10	3/4	25	25
32	80	65	84	21.5	142	120	162	19	2.4	10	1	20	25
32	80	65	84	21.5	142	120	162	19	2.4	10	1	25	25
32	88	87	107	21.5	145	120	160	19	2.4	13	1	32	32
40	88	87	115	21.5	149	128	180	23	2.4	13	1 1/4	20	32
40	88	87	115	21.5	149	128	180	23	2.4	13	1 1/4	25	32
40	88	87	115	21.5	149	128	180	23	2.4	13	1 1/4	32	32
40	88	87	115	21.5	174	153	180	23	2.4	13	1 1/4	40	32
50	80	65	97	17.5	160	134	180	27	3.0	10	1 1/2	20	25
50	88	87	120	21.5	160	134	180	28	3.0	13	1 1/2	25	32
50	88	87	120	21.5	160	134	180	28	3.0	13	1 1/2	32	32
50	144	135	164	32.0	209	169	209	33	3.0	25	1 1/2	40	63
50	144	135	164	32.0	209	169	209	33	3.0	25	1 1/2	50	63
63	80	65	104	17.5	177	144	180	33	3.0	10	2	20	25
63	88	87	127	21.5	177	144	180	35	3.0	13	2	25	32
63	88	87	127	21.5	177	144	180	35	3.0	13	2	32	32
63	144	135	170	39.0	225	192	220	39	3.0	25	2	40	63
63	144	135	170	39.0	225	192	220	39	3.0	25	2	50	63
63	144	135	170	39.0	225	192	220	39	3.0	25	2	63	63
90	88	87	140	21.5	205	159	190	47	4.3	13	3	20	32
90	88	87	140	21.5	205	159	190	47	4.3	13	3	25	32
90	88	87	140	21.5	205	159	190	47	4.3	13	3	32	32
90	144	135	184	39.0	254	207	250	51	4.3	25	3	50	63
90	144	135	184	39.0	254	207	250	51	4.3	25	3	63	63
110	88	87	149	21.5	227	171	190	56	5.3	13	4	20	32
110	88	87	149	21.5	227	171	190	56	5.3	13	4	25	32
110	88	87	149	21.5	227	171	190	56	5.3	13	4	32	32
110	144	135	194	39.0	276	219	250	60	5.3	25	4	50	63
110	144	135	194	39.0	276	219	250	60	5.3	25	4	63	63

d (mm)	DN1 (mm)	DN2 (mm)	e1 (mm)
20	15	15	1.9
25	15	20	1.9
25	20	20	1.9
32	15	20	1.9
32	20	20	1.9
32	25	25	2.4
40	15	25	1.9

table continued on the next page





d	DN1	DN2	e1
(mm)	(mm)	(mm)	(mm)
40	20	25	1.9
40	25	25	2.4
40	32	25	2.4
50	15	20	1.9
50	20	25	1.9
50	25	25	2.4
50	32	50	2.4
50	40	50	3.0
63	15	20	1.9
63	20	25	1.9
63	25	25	2.4
63	32	50	2.4
63	40	50	3.0
63	50	50	3.0
90	15	25	1.9
90	20	25	1.9
90	25	25	2.4
90	40	50	3.0
90	50	50	3.0
110	15	25	1.9
110	20	25	1.9
110	25	25	2.4
110	40	50	3.0
110	50	50	3.0



**SYGEF Plus**  
**Diaphragm valve type 317**  
**With flanges metric**

**Model:**

- Material: PVDF-HP
- DN 15-65 with backing flange
- DN 80-150 with fixed flange
- Overall length according to EN 558
- Diaphragm, PTFE with EPDM backing diaphragm (FDA compliant)

**Option:**

- Handwheel with built-in locking mechanism (standard version is nonlockable)

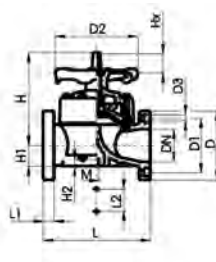
**\* DN80 and DN150 fixed flanges metric and inch ANSI B16.5**

	d	Size	DN	PN	kv-value	PTFE/EPDM	Weight
	(mm)	(inch)	(mm)	(bar)	( $\Delta p=1$ bar)	Code	(kg)
					(l/min)		
	75	2 ½	65	10	992	<b>175 317 453</b>	5.700
*	90	3	80	10	1700	<b>175 317 054</b>	11.057
	110	4	100	10	2700	<b>175 317 055</b>	16.112
*	160	6	150	7	6033	<b>175 317 057</b>	31.000

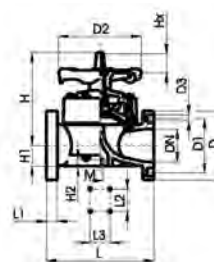
	d	D	D1	D2	D3	H	H1	H2	L	L1	L2	M	AL
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		
	75	185	145	152	18	201	46	15	290		70	M8	4
*	90	200	152	270	18	265	57	23	310	35	120	M12	8
	110	225	180	270	18	302	68	23	350	35	120	M12	8
*	160	285	240	400	22	437	108	23	480	26	100	M12	8



DN 15-65



DN 80-100



DN 150



### SYGEF Plus Diaphragm valve type 317 Flanged version Inch ANSI

#### Model:

- Material: PVDF-HP
- DN 15-65 with backing flange
- DN 80-150 with fixed flange
- Overall length according to EN 558
- Diaphragm, PTFE with EPDM backing diaphragm (FDA compliant)

#### Option:

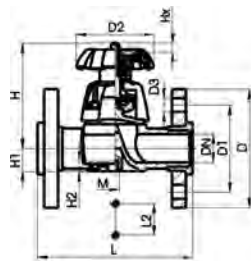
- Handwheel with built-in locking mechanism (standard version is nonlockable)

\* **DN80 and DN150 fixed flanges metric and inch ANSI B16.5**

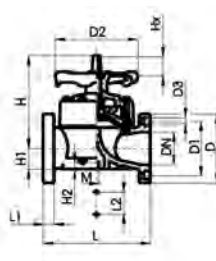
d	Size	DN	PN	kv-value	PTFE with	Weight
(mm)	(inch)	(mm)	(bar)	( $\Delta p=1$ bar)	EPDM supp.	(kg)
				(L/min)	Diaphragm	
					Code	

	75	2 ½	65	10	992	175 317 568	5.700
*	90	3	80	10	1700	175 317 054	11.057
	110	4	100	10	2700	175 317 355	14.950

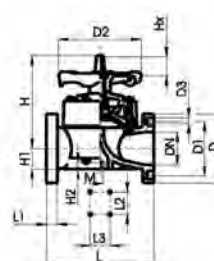
	d	D	D1	D2	D3	H	H1	H2	L	L1	L2	M	AL
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		
	75	185	140	152	18	201	46	15	290		70	M8	4
*	90	200	152	270	18	265	57	23	310	35	120	M12	8
	110	225	191	270	18	302	68	23	350	35	120	M12	8



DN 15-65



DN 80-100



DN 150

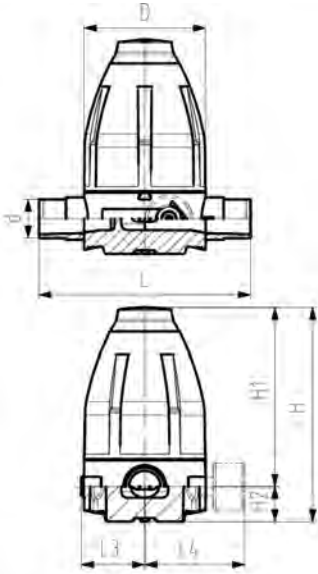
# Actuated valves



**SYGEF Plus**  
**Pressure reducing valve type 582**  
**With butt fusion spigots metric**  
**Without manometer**

**Model:**

- Diaphragm PTFE/EPDM
  - Integrated stainless steel mounting inserts
  - 0.5-9.0 bar (7-130 psi)
- 0.3-3.0 bar (4-44 psi) on request  
 Manometer on request



d (mm)	DN (mm)	PN (bar)	O-rings Code	FPM	D (mm)	H (mm)	H1 (mm)	H2 (mm)	H3 (mm)	L (mm)	L3 (mm)	L5 (mm)	M	closest inch (inch)
20	15	10	<b>180 582 012</b>		79	132	111	21	14	150	42	40	M6	½
25	20	10	<b>180 582 013</b>		100	177	148	29	14	190	53	46	M6	¾
32	25	10	<b>180 582 014</b>		100	177	148	29	14	190	53	46	M6	1
40	32	10	<b>180 582 015</b>		147	251	207	44	21	240	76	65	M8	1 ¼
50	40	10	<b>180 582 016</b>		147	251	207	44	21	240	76	65	M8	1 ½
63	50	10	<b>180 582 017</b>		147	251	207	44	21	260	76	65	M8	2



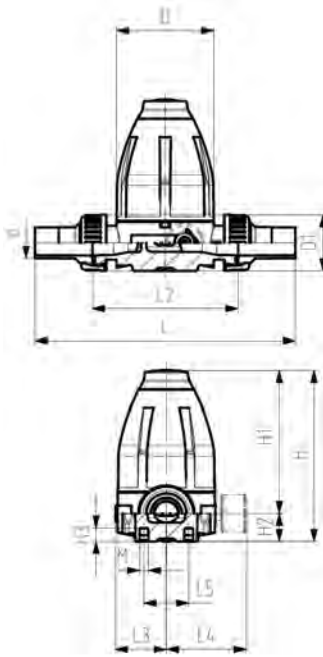
**SYGEF Plus**  
**Pressure reducing valve type 582**  
**Unions with butt fusion spigots metric**  
**Without manometer**

**Model:**

- Diaphragm PTFE/EPDM
- Integrated stainless steel mounting inserts
- 0.5-9.0 bar (7-130 psi)

0.3-3.0 bar (4-44 psi) on request

Manometer on request



d	DN	PN	O-rings	FPM	Code
(mm)	(mm)	(bar)			
20	15	10	10		<b>180 582 512</b>
25	20	10	10		<b>180 582 513</b>
32	25	10	10		<b>180 582 514</b>
40	32	10	10		<b>180 582 515</b>
50	40	10	10		<b>180 582 516</b>
63	50	10	10		<b>180 582 517</b>

d	D	H	H1	H2	H3	L	L2	L3	L5	M	closest inch
(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(inch)
20	79	132	111	21	12	226	120	42	40	M6	½
25	100	177	148	29	14	262	150	53	46	M6	¾
32	100	177	148	29	14	268	150	53	46	M6	1
40	147	251	207	44	21	329	205	76	65	M8	1 ¼
50	147	251	207	44	21	335	205	76	65	M8	1 ½
63	147	251	207	44	21	341	205	76	65	M8	2



**SYGEF Plus**  
**Diaphragm valve DIASTAR Ten**  
**FC (Fail safe to close)**  
**Unions with butt fusion spigots metric**

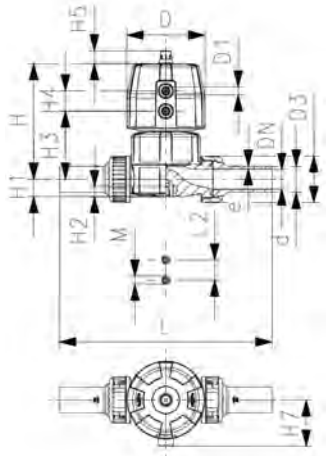
**Model:**

- Material: PVDF-HP
- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Rotating air connection at 90° intervals
- For easy installation and removal
- Short overall length

**Option:**

- Individual configuration of the valve (see diagram)
- Comprehensive range of accessories available

Working Pressure: **one side**



d (mm)	DN (mm)	PN (bar)	kv-value ( $\Delta p=1$ bar) (l/min)	PTFE/EPDM Code	Weight (kg)	PTFE/FPM Code	Weight (kg)
20	15	10	125	<b>180 624 132</b>	0.761	<b>180 624 152</b>	1.100
25	20	10	271	<b>180 624 133</b>	1.201	<b>180 624 153</b>	1.760
32	25	10	481	<b>180 624 134</b>	1.563	<b>180 624 154</b>	2.610
40	32	10	759	<b>180 624 135</b>	2.623	<b>180 624 155</b>	3.760
50	40	10	1263	<b>180 624 136</b>	4.323	<b>180 624 156</b>	6.220
63	50	6	1728	<b>180 624 137</b>	5.365	<b>180 624 157</b>	7.800

d (mm)	D (mm)	D1_G (inch)	H (mm)	H1 (mm)	H2 (mm)	H3 (mm)	H4 (mm)	H5 (mm)	H7 (mm)	L (mm)	L2 (mm)	M	e (mm)	Lift = Hx (mm)
20	68	1/8	101	14	12	60	24	16	43	196	25	M6	1.9	7
25	96	1/8	132	18	12	73	25	16	57	221	25	M6	1.9	10
32	96	1/8	143	22	12	84	25	16	57	234	25	M6	2.4	13
40	120	1/8	173	26	15	99	26	26	69	260	45	M8	2.4	15
50	150	1/4	214	32	15	119	36	26	88	284	45	M8	3.0	19
63	150	1/4	226	39	15	132	36	26	88	321	45	M8	3.0	23

d (mm)	closest inch (inch)
20	1/2
25	3/4
32	1
40	1 1/4
50	1 1/2
63	2



**SYGEF Plus**  
**Diaphragm valve DIASTAR Ten**  
**FC (Fail safe to close)**  
**With butt fusion spigots metric**

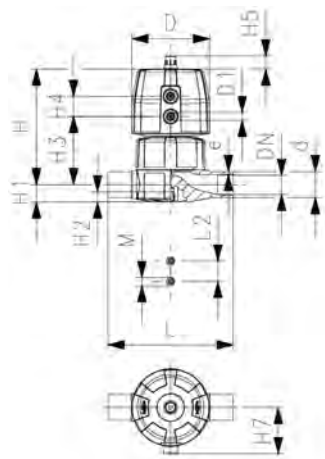
**Model:**

- Material: PVDF-HP
- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Rotating air connection at 90° intervals

**Option:**

- Individual configuration of the valve (see diagram)
- Comprehensive range of accessories available

Working Pressure: **one side**



d (mm)	DN (mm)	PN (bar)	kv-value ( $\Delta p=1$ bar) (l/min)	PTFE/EPDM Code	Weight (kg)	PTFE/FPM Code	Weight (kg)
20	15	10	125	<b>180 625 132</b>	0.668	<b>180 625 152</b>	0.541
25	20	10	271	<b>180 625 133</b>	1.113	<b>180 625 153</b>	1.191
32	25	10	481	<b>180 625 134</b>	1.402	<b>180 625 154</b>	1.403
40	32	10	759	<b>180 625 135</b>	2.242	<b>180 625 155</b>	2.243
50	40	10	1263	<b>180 625 136</b>	4.367	<b>180 625 156</b>	3.826
63	50	6	1728	<b>180 625 137</b>	4.635	<b>180 625 157</b>	4.636

d (mm)	D (mm)	D1_G (inch)	H (mm)	H1 (mm)	H2 (mm)	H3 (mm)	H4 (mm)	H5 (mm)	H7 (mm)	L (mm)	L2 (mm)	M	e (mm)	Lift = Hx (mm)
20	68	1/8	101	14	12	60	24	16	43	124	25	M6	1.9	7
25	96	1/8	132	18	12	73	25	16	57	144	25	M6	1.9	10
32	96	1/8	143	22	12	84	25	16	57	154	25	M6	2.4	13
40	120	1/8	173	26	15	99	26	26	69	174	45	M8	2.4	15
50	150	1/4	214	32	15	119	36	26	88	194	45	M8	3.0	19
63	150	1/4	226	39	15	132	36	26	88	224	45	M8	3.0	23

d (mm)	closest inch (inch)
20	1/2
25	3/4
32	1
40	1 1/4
50	1 1/2
63	2



**SYGEF Plus**  
**Diaphragm valve DIASTAR Ten**  
**FO (Fail safe to open)**  
**Unions with butt fusion spigots metric**

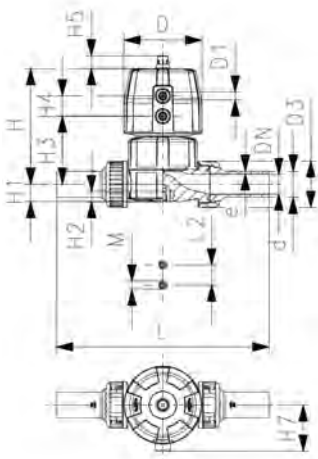
**Model:**

- Material: PVDF-HP
- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Rotating air connection at 90° intervals
- For easy installation and removal
- Short overall length

**Option:**

- Individual configuration of the valve (see diagram)
- Comprehensive range of accessories available

Working Pressure: **one side**



d (mm)	DN (mm)	PN (bar)	kv-value ( $\Delta p=1$ bar) (l/min)	PTFE/EPDM Code	Weight (kg)
20	15	10	125	<b>180 644 132</b>	0.711
25	20	10	271	<b>180 644 133</b>	1.189
32	25	10	481	<b>180 644 134</b>	1.350
40	32	10	759	<b>180 644 135</b>	2.263
50	40	10	1263	<b>180 644 136</b>	4.233
63	50	10	1728	<b>180 644 137</b>	5.275

d (mm)	D (mm)	D1_G (inch)	H (mm)	H1 (mm)	H2 (mm)	H3 (mm)	H4 (mm)	H5 (mm)	H7 (mm)	L (mm)	L2 (mm)	M	e (mm)	Lift = Hx (mm)
20	68	1/8	101	14	12	60	24	16	43	196	25	M6	1.9	7
25	96	3/8	132	18	12	73	25	16	57	221	25	M6	1.9	10
32	96	1/2	143	22	12	84	25	16	57	234	25	M6	2.4	13
40	120	3/4	173	26	15	99	26	26	69	260	45	M8	2.4	15
50	150	1/2	214	32	15	119	36	26	69	284	45	M8	3.0	19
63	150	3/4	226	39	15	132	36	26	69	321	45	M8	3.0	23

d (mm)	closest inch (inch)
20	3/8
25	1/2
32	1
40	1 1/4
50	1 1/2
63	2



**SYGEF Plus**  
**Diaphragm valve DIASTAR Ten**  
**FO (Fail safe to open)**  
**With butt fusion spigots metric**

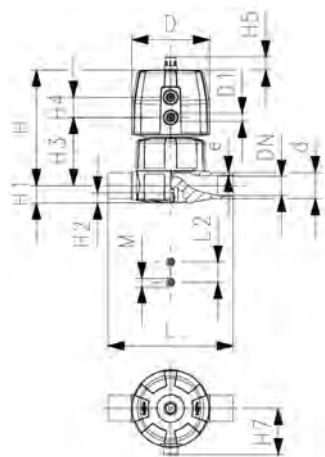
**Model:**

- Material: PVDF-HP
- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Rotating air connection at 90° intervals

**Option:**

- Individual configuration of the valve (see diagram)
- Comprehensive range of accessories available

Working Pressure: **one side**



d (mm)	DN (mm)	PN (bar)	kv-value ( $\Delta p=1$ bar) (l/min)	PTFE/EPDM Code	Weight (kg)
20	15	10	125	<b>180 645 132</b>	0.618
25	20	10	271	<b>180 645 133</b>	1.016
32	25	10	481	<b>180 645 134</b>	1.222
40	32	10	759	<b>180 645 135</b>	1.882
50	40	10	1263	<b>180 645 136</b>	3.735
63	50	10	1728	<b>180 645 137</b>	4.545

d (mm)	D (mm)	D1_G (inch)	H (mm)	H1 (mm)	H2 (mm)	H3 (mm)	H4 (mm)	H5 (mm)	H7 (mm)	L (mm)	L2 (mm)	M	e (mm)	Lift = Hx (mm)
20	68	1/8	101	14	12	60	24	16	43	124	25	M6	1.9	7
25	96	1/8	132	18	12	73	25	16	57	144	25	M6	1.9	10
32	96	1/8	143	22	12	84	25	16	57	154	25	M6	2.4	13
40	120	1/8	173	26	15	99	26	26	69	174	45	M8	2.4	15
50	150	1/4	214	32	15	119	36	26	88	194	45	M8	3.0	19
63	150	1/4	226	39	15	132	36	26	88	224	45	M8	3.0	23

d (mm)	closest inch (inch)
20	1/2
25	3/4
32	1
40	1 1/4
50	1 1/2
63	2





**SYGEF Plus**  
**Diaphragm valve DIASTAR Ten**  
**DA (Double acting)**  
**With butt fusion spigots metric**

**Model:**

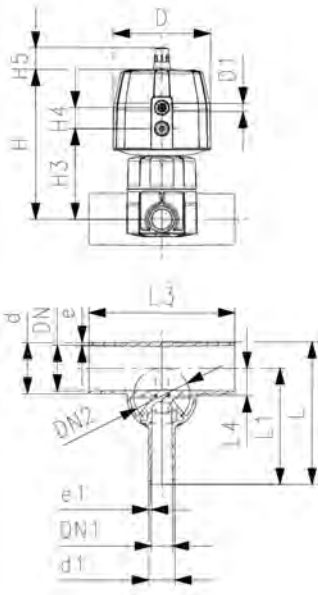
- Material: PVDF-HP
- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Rotating air connection at 90° intervals
- Smallest possible dead space

**Option:**

- Individual configuration of the valve (see diagram)
- Comprehensive range of accessories available

\* PN: PTFE

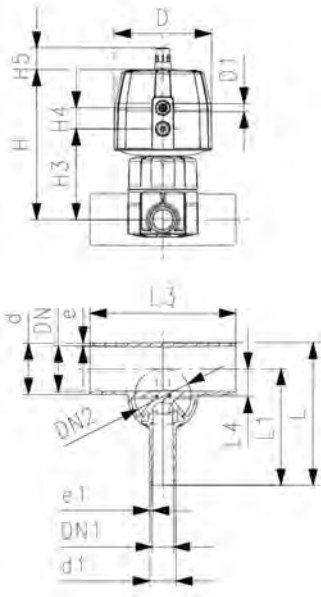
Working Pressure: **one side**



d (mm)	DN (mm)	PN* (bar)	kv-value ( $\Delta p=1$ bar) (L/min)	PTFE/EPDM Code	Weight (kg)
20	15	16/10*	57	180 659 301	0.635
25	20	16/10*	89	180 659 303	1.002
25	20	16/10*	118	180 659 304	1.005
32	25	16/10*	80	180 659 307	1.055
32	25	16/10*	105	180 659 308	1.059
32	25	16/10*	231	180 659 309	1.234
40	32	16/10*	85	180 659 312	1.288
40	32	16/10*	119	180 659 313	1.292
40	32	16/10*	153	180 659 314	1.310
40	32	16/10*	187	180 659 315	1.339
50	40	16/10*	86	180 659 318	1.174
50	40	16/10*	160	180 659 319	1.378
50	40	16/10*	206	180 659 320	1.383
50	40	16/10*	524	180 659 321	3.667
50	40	16/10*	667	180 659 322	3.677
63	50	16/10*	84	180 659 325	1.251
63	50	16/10*	150	180 659 326	1.463
63	50	16/10*	184	180 659 327	1.469
63	50	16/10*	471	180 659 328	3.844
63	50	16/10*	610	180 659 329	3.909
63	50	16/10*	747	180 659 330	3.922
90	80	16/10*	82	180 659 341	1.748
90	80	16/10*	103	180 659 342	1.755
90	80	16/10*	129	180 659 343	1.771
90	80	16/10*	623	180 659 345	4.362
90	80	16/10*	696	180 659 346	4.390
110	100	16/10*	78	180 659 351	2.018
110	100	16/10*	103	180 659 352	2.024
110	100	16/10*	131	180 659 353	2.041
110	100	16/10*	604	180 659 355	4.778
110	100	16/10*	661	180 659 356	4.808

d (mm)	D (mm)	D1 (inch)	H (mm)	H3 (mm)	H4 (mm)	H5 (mm)	L (mm)	L1 (mm)	L3 (mm)	L4 (mm)	e (mm)	Lift = Hx (mm)	Valve Size d (mm)	DN1 (mm)
20	68	1/8	104	63	24	16	117	96	162	12	2	7	20	15
25	96	1/8	131	73	25	16	133	108	162	16	2	10	25	15
25	96	1/8	131	73	25	16	133	108	162	16	2	10	25	20
32	96	1/8	135	76	25	16	142	120	162	19	3	10	25	15
32	96	1/8	135	76	25	16	142	120	162	19	3	10	25	20
32	96	1/8	143	84	25	16	145	120	160	19	3	13	32	25
40	96	1/8	151	92	25	16	149	128	180	23	4	13	32	15
40	96	1/8	151	92	25	16	149	128	180	23	4	13	32	20
40	96	1/8	151	92	25	16	149	128	180	23	4	13	32	25
40	96	1/8	151	92	25	16	174	153	180	23	4	13	32	32
50	96	1/8	148	90	25	16	160	134	180	27	5	10	25	15

table continued on the next page



d	D	D1	H	H3	H4	H5	L	L1	L3	L4	e	Lift = Hx	Valve Size d	DN1
(mm)	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
50	96	⅜	156	97	25	16	160	134	180	28	5	13	32	20
50	96	⅜	156	97	25	16	160	134	180	28	5	13	32	25
50	150	⅜	224	129	36	26	209	169	209	33	5	23	63	32
50	150	⅜	224	129	36	26	209	169	209	33	5	23	63	40
63	96	⅜	155	96	25	16	177	144	180	33	6	10	25	15
63	96	⅜	163	104	25	16	177	144	180	35	6	13	32	20
63	96	⅜	163	104	25	16	177	144	180	35	6	13	32	25
63	150	⅜	230	136	36	26	225	192	220	39	6	23	63	32
63	150	⅜	230	136	36	26	225	192	220	39	6	23	63	40
63	150	⅜	230	136	36	26	225	192	220	39	6	23	63	50
90	96	⅜	176	117	25	16	205	159	190	47	8	13	32	15
90	96	⅜	176	117	25	16	205	159	190	47	8	13	32	20
90	96	⅜	176	117	25	16	205	159	190	47	8	13	32	25
90	150	⅜	244	150	36	26	254	207	250	51	8	23	63	40
90	150	⅜	244	150	36	26	254	207	250	51	8	23	63	50
110	96	⅜	185	126	25	16	227	171	190	56	10	13	32	15
110	96	⅜	185	126	25	16	227	171	190	56	10	13	32	20
110	96	⅜	185	126	25	16	227	171	190	56	10	13	32	25
110	150	⅜	254	160	36	26	276	219	250	60	10	23	63	40
110	150	⅜	254	160	36	26	276	219	250	60	10	23	63	50

d	DN2	d1	e1
(mm)	(mm)	(mm)	(mm)
20	15	20	2
25	20	20	2
25	20	25	2
32	20	20	2
32	20	25	2
32	25	32	3
40	25	20	2
40	25	25	2
40	25	32	3
40	25	40	4
50	20	20	2
50	25	25	2
50	25	32	3
50	50	40	4
50	50	50	5
63	20	20	2
63	25	25	2
63	25	32	3
63	50	40	4
63	50	50	5
63	50	63	6
90	25	20	2
90	25	25	2
90	25	32	3
90	50	50	5
90	50	63	6
110	25	20	2
110	25	25	2
110	25	32	3
110	50	50	5
110	50	63	6



**SYGEF Plus**  
**Diaphragm valve DIASTAR Ten**  
**DA (Double acting)**  
**With butt fusion spigots metric**

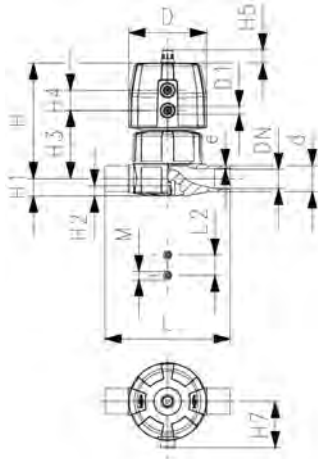
**Model:**

- Material: PVDF-HP
- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Rotating air connection at 90° intervals

**Option:**

- Individual configuration of the valve (see diagram)
- Comprehensive range of accessories available

Working Pressure: **one side**



d (mm)	DN (mm)	PN (bar)	kv-value ( $\Delta p=1$ bar) (l/min)	PTFE/EPDM Code	Weight (kg)
20	15	10	125	<b>180 655 132</b>	0.602
25	20	10	271	<b>180 655 133</b>	0.980
32	25	10	481	<b>180 655 134</b>	1.192
40	32	10	759	<b>180 655 135</b>	1.822
50	40	10	1263	<b>180 655 136</b>	2.985
63	50	10	1728	<b>180 655 137</b>	3.795

d (mm)	D (mm)	D1_G (inch)	H (mm)	H1 (mm)	H2 (mm)	H3 (mm)	H4 (mm)	H5 (mm)	H7 (mm)	L (mm)	L2 (mm)	M	e (mm)	Lift = Hx (mm)
20	68	1/8	101	14	12	60	24	16	43	124	25	M6	1.9	7
25	96	1/8	132	18	12	73	25	16	57	144	25	M6	1.9	10
32	96	1/8	143	22	12	84	25	16	57	154	25	M6	2.4	13
40	120	1/8	173	26	15	99	26	26	69	174	45	M8	2.4	15
50	150	1/4	214	32	15	119	36	26	88	194	45	M8	3.0	19
63	150	1/4	226	39	15	132	36	26	88	224	45	M8	3.0	23

d (mm)	closest inch (inch)
20	1/2
25	3/4
32	1
40	1 1/4
50	1 1/2
63	2



**SYGEF Plus**  
**Diaphragm valve DIASTAR Ten**  
**DA (Double acting)**  
**Unions with butt fusion spigots metric**

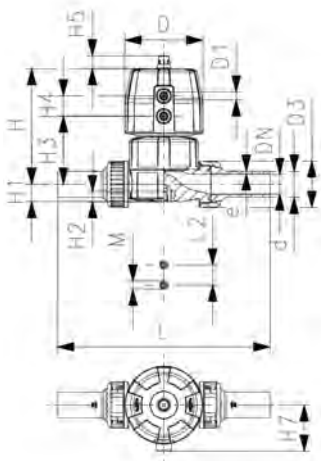
**Model:**

- Material: PVDF-HP
- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Rotating air connection at 90° intervals
- For easy installation and removal
- Short overall length

**Option:**

- Individual configuration of the valve (see diagram)
- Comprehensive range of accessories available

Working Pressure: **one side**



d (mm)	DN (mm)	PN (bar)	kv-value ( $\Delta p=1$ bar) (l/min)	PTFE/EPDM Code	Weight (kg)
20	15	10	125	<b>180 654 132</b>	0.695
25	20	10	271	<b>180 654 133</b>	1.153
32	25	10	481	<b>180 654 134</b>	1.396
40	32	10	759	<b>180 654 135</b>	2.203
50	40	10	1263	<b>180 654 136</b>	3.483
63	50	10	1728	<b>180 654 137</b>	4.525

d (mm)	D (mm)	D1_G (inch)	H (mm)	H1 (mm)	H2 (mm)	H3 (mm)	H4 (mm)	H5 (mm)	H7 (mm)	L (mm)	L2 (mm)	M	e (mm)	Lift = Hx (mm)
20	68	1/8	101	14	12	60	24	16	43	196	25	M6	1.9	7
25	96	3/8	132	18	12	73	25	16	57	221	25	M6	1.9	10
32	96	1/2	143	22	12	84	25	16	57	234	25	M6	2.4	13
40	120	3/4	173	26	15	99	26	26	69	260	45	M8	2.4	15
50	150	1/2	214	32	15	119	36	26	69	284	45	M8	3.0	19
63	150	3/4	226	39	15	132	36	26	69	321	45	M8	3.0	23

d (mm)	closest inch (inch)
20	3/8
25	1/2
32	1
40	1 1/4
50	1 1/2
63	2



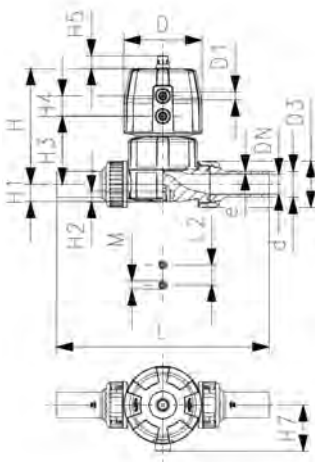
**SYGEF Plus**  
**Diaphragm valve DIASTAR Sixteen**  
**FC (Fail safe to close)**  
**Unions with butt fusion spigots metric**

**Model:**

- Material: PVDF-HP
- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Rotating air connection at 90° intervals
- For easy installation and removal
- Short overall length
- Ideally suited for High Purity applications, not recommended for oxidizing acids

**Option:**

- Individual configuration of the valve (see diagram)
- Comprehensive range of accessories available



d (mm)	DN (mm)	PN (bar)	kv-value ( $\Delta p=1$ bar) (l/min)	PTFE/EPDM Code	Weight (kg)
20	15	16	125	<b>180 634 132</b>	1.172
25	20	16	271	<b>180 634 133</b>	1.381
32	25	16	481	<b>180 634 134</b>	2.225
40	32	16	759	<b>180 634 135</b>	3.730
50	40	16	1263	<b>180 634 136</b>	5.786
63	50	10	1728	<b>180 634 137</b>	6.880

d (mm)	D (mm)	D1_G (inch)	H (mm)	H1 (mm)	H2 (mm)	H3 (mm)	H4 (mm)	H5 (mm)	H7 (mm)	L (mm)	L2 (mm)	M	e (mm)	Lift = Hx (mm)
20	96	⅜	127	14	12	68	25	16	57	196	25	M6	1.9	7
25	96	⅜	132	18	12	73	25	16	57	221	25	M6	1.9	10
32	120	⅜	167	22	12	93	26	26	69	234	25	M6	2.4	13
40	150	¼	196	26	15	101	36	26	88	260	45	M8	2.4	15
50	180	¼	239	32	15	124	37	26	103	284	45	M8	3.0	19
63	180	¼	251	39	15	137	37	26	103	321	45	M8	3.0	23

d (mm)	closest inch (inch)
20	⅜
25	¾
32	1
40	1 ¼
50	1 ½
63	2



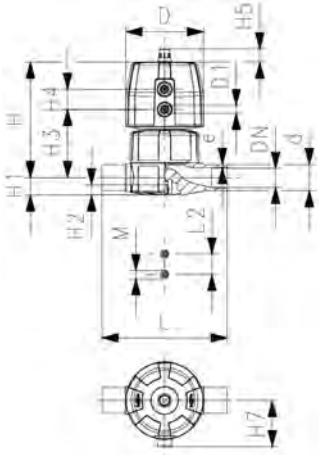
**SYGEF Plus**  
**Diaphragm valve DIASTAR Sixteen**  
**FC (Fail safe to close)**  
**With butt fusion spigots metric**

**Model:**

- Material: PVDF-HP
- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Rotating air connection at 90° intervals
- Ideally suited for High Purity applications, recommended for oxidizing acids.

**Option:**

- Individual configuration of the valve (see diagram)
- Comprehensive range of accessories available



d (mm)	DN (mm)	PN (bar)	kv-value ( $\Delta p=1$ bar) (L/min)	PTFE/EPDM Code	Weight (kg)
20	15	16	125	<b>180 635 132</b>	1.259
25	20	16	271	<b>180 635 133</b>	1.208
32	25	16	481	<b>180 635 134</b>	2.021
40	32	16	759	<b>180 635 135</b>	3.349
50	40	16	1263	<b>180 635 136</b>	5.288
63	50	10	1728	<b>180 635 137</b>	6.150

d (mm)	D (mm)	D1_G (inch)	H (mm)	H1 (mm)	H2 (mm)	H3 (mm)	H4 (mm)	H5 (mm)	H7 (mm)	L (mm)	L2 (mm)	M	e (mm)	Lift = Hx (mm)
20	96	⅜	127	14	12	68	25	16	57	124	25	M6	1.9	7
25	96	⅜	132	18	12	73	25	16	57	144	25	M6	1.9	10
32	120	⅜	167	22	12	93	26	26	69	154	25	M6	2.4	13
40	150	⅜	196	26	15	101	36	26	88	174	45	M8	2.4	15
50	180	⅜	239	32	15	124	37	26	103	194	45	M8	3.0	19
63	180	⅜	251	39	15	137	37	26	103	224	45	M8	3.0	23

d (mm)	closest inch (inch)
20	⅜
25	⅜
32	1
40	1 ¼
50	1 ½
63	2



**SYGEF Plus**  
**Diaphragm valve DIASTAR Sixteen**  
**FC (Fail safe to close)**  
**With butt fusion spigots metric**

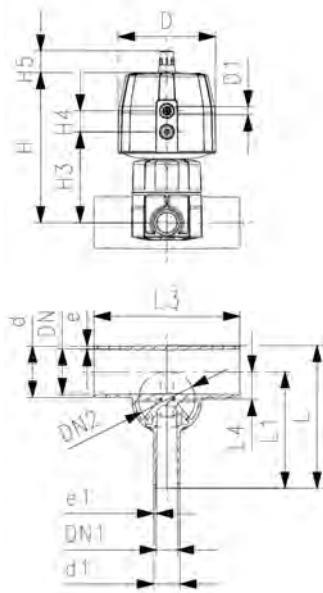
**Model:**

- Material: PVDF-HP
- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Rotating air connection at 90° intervals
- Smallest possible dead space
- Ideally suited for High Purity applications, not recommended for oxidizing acids

**Option:**

- Individual configuration of the valve (see diagram)
- Comprehensive range of accessories available

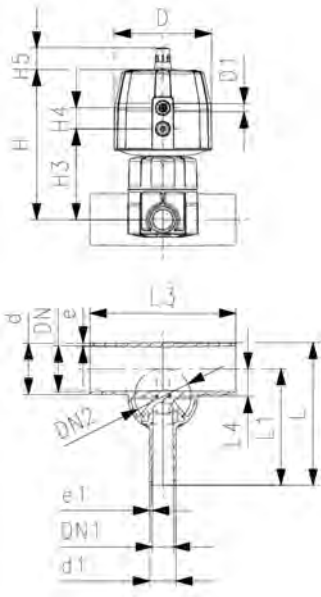
\* Available on request



d (mm)	DN (mm)	DN1 (mm)	DN2 (mm)	PN (bar)	kv-value ( $\Delta p=1$ bar) (l/min)	PTFE/EPDM Code	Weight (kg)
20	15	15	15	16	57	180 639 301	1.112
25	20	15	20	16	89	180 639 303	1.230
25	20	20	20	16	118	180 639 304	1.233
32	25	15	20	16	80	180 639 307	1.283
32	25	20	20	16	105	180 639 308	1.287
32	25	25	25	16	231	180 639 309	2.063
40	32	15	25	16	85	180 639 312	2.117
40	32	20	25	16	119	180 639 313	2.121
40	32	25	25	16	153	180 639 314	2.139
40	32	32	25	16	187	180 639 315	2.168
50	40	15	20	16	86	180 639 318	1.402
50	40	20	25	16	160	180 639 319	2.207
50	40	25	25	16	206	180 639 320	2.212
50	40	32	50	10	524	180 639 321	6.022
50	40	40	50	10	667	180 639 322	6.032
63	50	15	20	16	84	180 639 325	1.479
63	50	20	25	16	150	180 639 326	2.292
63	50	25	25	16	184	180 639 327	2.298
63	50	32	50	10	471	180 639 328	6.199
63	50	40	50	10	610	180 639 329	6.264
63	50	50	50	10	747	180 639 330	6.277
90	80	15	25	16	82	180 639 341	2.577
90	80	20	25	16	103	180 639 342	2.584
90	80	25	25	16	129	180 639 343	2.600
90	80	40	50	10	623	180 639 345	6.717
90	80	50	50	10	696	180 639 346	6.745
110	100	15	25	16	78	180 639 351	2.847
110	100	20	25	16	103	180 639 352	2.853
110	100	25	25	16	131	180 639 353	2.870
110	100	40	50	10	604	180 639 355	7.133
110	100	50	50	10	661	180 639 356	7.163

d (mm)	D (mm)	D1 (inch)	H (mm)	H3 (mm)	H4 (mm)	H5 (mm)	L (mm)	L1 (mm)	L3 (mm)	L4 (mm)	e (mm)	Lift = Hx (mm)	d1 (mm)	Valve Size d (mm)
20	96	1/8	130	71	25	16	117	96	162	12	1.9	7	20	20
25	96	1/8	131	72	25	16	133	108	162	16	1.9	10	20	25
25	96	1/8	131	72	25	16	133	108	162	16	1.9	10	25	25
32	96	1/8	135	76	25	16	142	120	162	19	2.4	10	20	25
32	96	1/8	135	76	25	16	142	120	162	19	2.4	10	25	25
32	120	1/8	167	93	26	26	145	120	160	19	2.4	13	32	32
40	120	1/8	175	101	26	26	149	128	180	23	2.4	13	20	32
40	120	1/8	175	101	26	26	149	128	180	23	2.4	13	25	32
40	120	1/8	175	101	26	26	149	128	180	23	2.4	13	32	32
40	120	1/8	175	101	26	26	174	153	180	23	2.4	13	40	32
50	96	1/8	148	90	25	16	160	134	180	27	3.0	10	20	25

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d (mm)	D (mm)	D1 (inch)	H (mm)	H3 (mm)	H4 (mm)	H5 (mm)	L (mm)	L1 (mm)	L3 (mm)	L4 (mm)	e (mm)	Lift = Hx (mm)	d1 (mm)	Valve Size d (mm)
50	120	1/2	180	106	26	26	160	134	180	28	3.0	13	25	32
50	120	1/2	180	106	26	26	160	134	180	28	3.0	13	32	32
50	180	1/4	249	135	37	26	209	169	209	33	3.0	23	40	63
50	180	1/4	249	135	37	26	209	169	209	33	3.0	23	50	63
63	96	1/8	155	96	25	16	177	144	180	33	3.0	10	20	25
63	120	1/8	187	113	26	26	177	144	180	35	3.0	13	25	32
63	120	1/8	187	113	26	26	177	144	180	35	3.0	13	32	32
63	180	1/4	255	141	37	26	225	192	220	39	3.0	23	40	63
63	180	1/4	255	141	37	26	225	192	220	39	3.0	23	50	63
63	180	1/4	255	141	37	26	225	192	220	39	3.0	23	63	63
90	120	1/8	200	126	26	26	205	159	190	47	4.3	13	20	32
90	120	1/8	200	126	26	26	205	159	190	47	4.3	13	25	32
90	120	1/8	200	126	26	26	205	159	190	47	4.3	13	32	32
90	180	1/4	269	155	37	26	254	207	250	51	4.3	23	50	63
90	180	1/4	269	155	37	26	254	207	250	51	4.3	23	63	63
110	120	1/8	209	135	26	26	227	171	190	56	5.3	13	20	32
110	120	1/8	209	135	26	26	227	171	190	56	5.3	13	25	32
110	120	1/8	209	135	26	26	227	171	190	56	5.3	13	32	32
110	180	1/4	279	165	37	26	276	219	250	60	5.3	23	50	63
110	180	1/4	279	165	37	26	276	219	250	60	5.3	23	63	63

d (mm)	e1 (mm)
20	2
25	2
25	2
32	2
32	2
32	2
40	2
40	2
40	2
40	2
40	2
50	2
50	2
50	2
50	2
50	2
50	3
63	2
63	2
63	2
63	2
63	3
63	3
90	2
90	2
90	2
90	3
90	3
110	2
110	2
110	2
110	3
110	3





**SYGEF Plus**  
**Diaphragm valve DIASTAR TenPlus**  
**FC (Fail safe to close)**  
**Unions with butt fusion spigots metric**

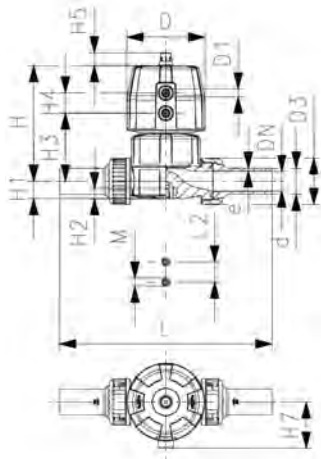
**Model:**

- Material: PVDF-HP
- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Rotating air connection at 90° intervals
- For easy installation and removal
- Short overall length

**Option:**

- Individual configuration of the valve (see diagram)
- Comprehensive range of accessories available

Working Pressure: **both sides**



d (mm)	DN (mm)	PN (bar)	kv-value ( $\Delta p=1$ bar) (L/min)	PTFE/EPDM Code	Weight (kg)	PTFE/FPM Code	Weight (kg)
20	15	10	125	<b>181 684 132</b>	1.172	<b>181 684 152</b>	1.172
25	20	10	271	<b>181 684 133</b>	1.381	<b>181 684 153</b>	1.381
32	25	10	481	<b>181 684 134</b>	2.225	<b>181 684 154</b>	2.225
40	32	10	759	<b>181 684 135</b>	3.730	<b>181 684 155</b>	3.730
50	40	10	1263	<b>181 684 136</b>	5.786	<b>181 684 156</b>	5.786
63	50	10	1728	<b>181 684 137</b>	6.880	<b>181 684 157</b>	6.880

d (mm)	D (mm)	D1_G (inch)	H (mm)	H1 (mm)	H2 (mm)	H3 (mm)	H4 (mm)	H5 (mm)	H7 (mm)	L (mm)	L2 (mm)	M	e (mm)	Lift = Hx (mm)
20	96	⅜	127	14	12	68	25	16	57	196	25	M6	1.9	7
25	96	⅜	132	18	12	73	25	16	57	221	25	M6	1.9	10
32	120	⅜	167	22	12	93	26	26	69	234	25	M6	2.4	13
40	150	¼	196	26	15	101	36	26	88	260	45	M8	2.4	15
50	180	¼	239	32	15	124	37	26	103	284	45	M8	3.0	19
63	180	¼	251	39	15	137	37	26	103	321	45	M8	3.0	23

d (mm)	closest inch (inch)
20	⅜
25	¾
32	1
40	1 ¼
50	1 ½
63	2



**SYGEF Plus**  
**Diaphragm valve DIASTAR TenPlus**  
**FC (Fail safe to close)**  
**With butt fusion spigots metric**

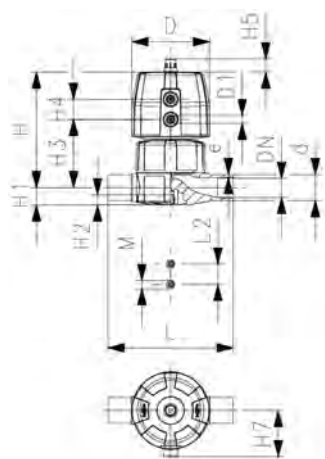
**Model:**

- Material: PVDF-HP
- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Rotating air connection at 90° intervals

**Option:**

- Individual configuration of the valve (see diagram)
- Comprehensive range of accessories available

Working Pressure: **both sides**



d (mm)	DN (mm)	PN (bar)	kv-value ( $\Delta p=1$ bar) (l/min)	PTFE/EPDM Code	Weight (kg)	PTFE/FPM Code	Weight (kg)
20	15	10	125	<b>181 685 132</b>	1.079	<b>181 685 152</b>	1.079
25	20	10	271	<b>181 685 133</b>	1.208	<b>181 685 153</b>	1.208
32	25	10	481	<b>181 685 134</b>	2.021	<b>181 685 154</b>	2.021
40	32	10	759	<b>181 685 135</b>	3.349	<b>181 685 155</b>	3.349
50	40	10	1263	<b>181 685 136</b>	5.288	<b>181 685 156</b>	5.288
63	50	10	1728	<b>181 685 137</b>	6.150	<b>181 685 157</b>	6.150

d (mm)	D (mm)	D1_G (inch)	H (mm)	H1 (mm)	H2 (mm)	H3 (mm)	H4 (mm)	H5 (mm)	H7 (mm)	L (mm)	L2 (mm)	M	e (mm)	Lift = Hx (mm)
20	96	⅜	127	14	12	68	25	16	57	124	25	M6	1.9	7
25	96	⅜	132	18	12	73	25	16	57	144	25	M6	1.9	10
32	120	⅜	167	22	12	93	26	26	69	154	25	M6	2.4	13
40	150	¼	196	26	15	101	36	26	88	174	45	M8	2.4	15
50	180	¼	239	32	15	124	37	26	103	194	45	M8	3.0	19
63	180	¼	251	39	15	137	37	26	103	224	45	M8	3.0	23

d (mm)	closest inch (inch)
20	⅜
25	⅜
32	1
40	1 ¼
50	1 ½
63	2



**SYGEF Plus**  
**Diaphragm valve DIASTAR TenPlus**  
**FC (Fail safe to close)**  
**With butt fusion spigots metric**

**Model:**

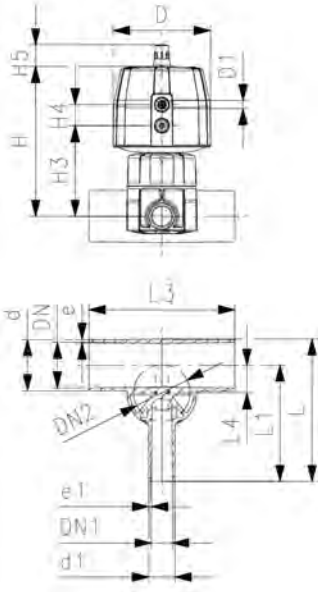
- Material: PVDF-HP
- Double flow rate compared to predecessor
- One housing nut replaces four screws
- Rotating air connection at 90° intervals
- Smallest possible dead space

**Option:**

- Individual configuration of the valve (see diagram)
- Comprehensive range of accessories available

Working Pressure: **both sides**

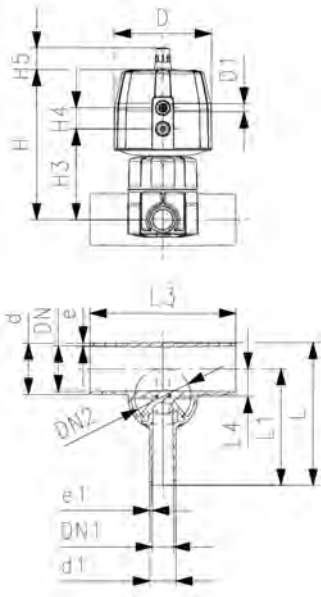
\* Available on request



d	DN	PN	kv-value	PTFE/EPDM	Weight	PTFE/FPM	Weight
(mm)	(mm)	(bar)	( $\Delta p=1$ bar)	Code	(kg)	Code	(kg)
			(l/min)				
20	15	10	57	181 689 301	1.112	181 689 501	1.112
25	20	10	89	181 689 303	1.230	181 689 503	1.230
25	20	10	118	181 689 304	1.233	181 689 504	1.233
32	25	10	80	181 689 307	1.283	181 689 507	1.283
32	25	10	105	181 689 308	1.287	181 689 508	1.287
32	25	10	231	181 689 309	2.391	181 689 509	2.063
40	32	10	85	181 689 312	2.117	181 689 512	2.117
40	32	10	119	181 689 313	2.121	181 689 513	2.121
40	32	10	153	181 689 314	2.139	181 689 514	2.139
40	32	10	187	181 689 315	2.168	181 689 515	2.168
50	40	10	86	181 689 318	1.402	181 689 518	1.402
50	40	10	160	181 689 319	2.207	181 689 519	2.207
50	40	10	206	181 689 320	2.212	181 689 520	2.212
50	40	10	524	181 689 321	6.022	181 689 521	6.022
50	40	10	667	181 689 322	6.032	181 689 522	6.032
63	50	10	84	181 689 325	1.479	181 689 525	1.479
63	50	10	150	181 689 326	2.292	181 689 526	2.292
63	50	10	184	181 689 327	2.298	181 689 527	2.298
63	50	10	471	181 689 328	6.199	181 689 528	6.199
63	50	10	610	181 689 329	6.264	181 689 529	6.264
63	50	10	747	181 689 330	6.277	181 689 530	6.277
90	80	10	82	181 689 341	2.577	181 689 541	2.577
90	80	10	103	181 689 342	2.584	181 689 542	2.584
90	80	10	129	181 689 343	2.600	181 689 543	2.600
90	80	10	623	181 689 345	6.717	181 689 545	6.717
90	80	10	696	181 689 346	6.745	181 689 546	6.745
110	100	10	78	181 689 351	2.847	181 689 551	2.847
110	100	10	103	181 689 352	2.853	181 689 552	2.853
110	100	10	131	181 689 353	2.870	181 689 553	2.870
110	100	10	604	181 689 355	7.133	181 689 555	7.133
110	100	10	661	181 689 356	7.163	181 689 556	7.163

d	D	D1	H	H3	H4	H5	L	L1	L3	L4	e	Lift = Hx	Valve Size d	d1
(mm)	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
20	96	1/8	130	71	25	16	117	96	162	12	1.9	7	20	20
25	96	1/8	131	72	25	16	133	108	162	16	1.9	10	25	20
25	96	1/8	131	72	25	16	133	108	162	16	1.9	10	25	25
32	96	1/8	135	76	25	16	142	120	162	19	2.4	10	25	20
32	96	1/8	135	76	25	16	142	120	162	19	2.4	10	25	25
32	120	1/8	167	93	26	26	145	120	160	19	2.4	13	32	32
40	120	1/8	175	101	26	26	149	128	180	23	2.4	13	32	20
40	120	1/8	175	101	26	26	149	128	180	23	2.4	13	32	25
40	120	1/8	175	101	26	26	149	128	180	23	2.4	13	32	32
40	120	1/8	175	101	26	26	174	153	180	23	2.4	13	32	40
50	96	1/8	148	90	25	16	160	134	180	27	3.0	10	25	20

table continued on the next page



d (mm)	D (mm)	D1 (inch)	H (mm)	H3 (mm)	H4 (mm)	H5 (mm)	L (mm)	L1 (mm)	L3 (mm)	L4 (mm)	e (mm)	Lift = Hx (mm)	Valve Size d (mm)	d1 (mm)
50	120	1/2	180	106	26	26	160	134	180	28	3.0	13	32	25
50	120	1/2	180	106	26	26	160	134	180	28	3.0	13	32	32
50	180	1/2	249	135	37	26	209	169	209	33	3.0	23	63	40
50	180	1/2	249	135	37	26	209	169	209	33	3.0	23	63	50
63	96	1/2	155	96	25	16	177	144	180	33	3.0	10	25	20
63	120	1/2	187	113	26	26	177	144	180	35	3.0	13	32	25
63	120	1/2	187	113	26	26	177	144	180	35	3.0	13	32	32
63	180	1/2	255	141	37	26	225	192	220	39	3.0	23	63	40
63	180	1/2	255	141	37	26	225	192	220	39	3.0	23	63	50
63	180	1/2	255	141	37	26	225	192	220	39	3.0	23	63	63
90	120	1/2	200	126	26	26	205	159	190	47	4.3	13	32	20
90	120	1/2	200	126	26	26	205	159	190	47	4.3	13	32	25
90	120	1/2	200	126	26	26	205	159	190	47	4.3	13	32	32
90	180	1/2	269	155	37	26	254	207	250	51	4.3	23	63	50
90	180	1/2	269	155	37	26	254	207	250	51	4.3	23	63	63
110	120	1/2	209	135	26	26	227	171	190	56	5.3	13	32	20
110	120	1/2	209	135	26	26	227	171	190	56	5.3	13	32	25
110	120	1/2	209	135	26	26	227	171	190	56	5.3	13	32	32
110	180	1/2	279	165	37	26	276	219	250	60	5.3	23	63	50
110	180	1/2	279	165	37	26	276	219	250	60	5.3	23	63	63

d (mm)	DN2 (mm)	DN1 (mm)	e1 (mm)
20	15	15	2
25	20	15	2
25	20	20	2
32	20	15	2
32	20	20	2
32	25	25	2
40	25	15	2
40	25	20	2
40	25	25	2
40	25	32	2
50	20	15	2
50	25	20	2
50	25	25	2
50	50	32	2
50	50	40	3
63	20	15	2
63	25	20	2
63	25	25	2
63	50	32	2
63	50	40	3
63	50	50	3
90	25	15	2
90	25	20	2
90	25	25	2
90	50	40	3
90	50	50	3
110	25	15	2
110	25	20	2
110	25	25	2
110	50	40	3
110	50	50	3



**SYGEF Plus**  
**Diaphragm valve type DIASTAR 025**  
**Function FC (Fail safe to close)**  
**With fixed flanges PVDF metric**

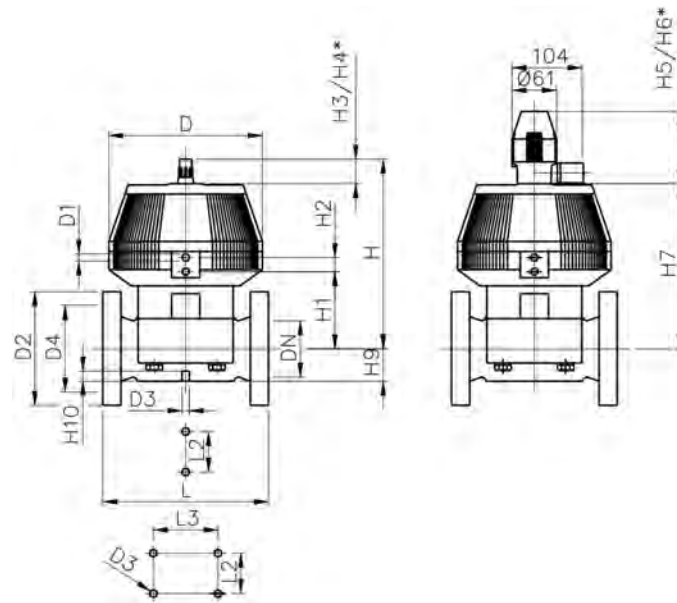
**Model:**

- Material: PVDF-HP
- Connecting dimension: ISO 7005 / EN 1092 / DIN 25 PN10 / BS4504
- With position indicator / Working pressure: **both sides**
- \* With backing flanges PP-V
- \*\* Connecting dimensions DN80 and DN150 metric and Inch ANSI B16.5

	d (mm)	Size (inch)	DN (mm)	PN (bar)	kv-value ( $\Delta p=1$ bar) (l/min)	PTFE/EPDM Code	Weight (kg)
*	75	2 ½	65	10	992	<b>199 025 447</b>	13.600
**	90	3	80	10	1700	<b>199 025 448</b>	17.400
	110	4	100	6	2700	<b>199 025 449</b>	24.700

	d (mm)	D (mm)	D1_G (inch)	D2 (mm)	D3[M] (mm)	D4 (mm)	H (mm)	H1 (mm)	H2 (mm)	H3 (mm)	H4 (mm)	H5 (mm)	H6 (mm)	H7 (mm)	H9 (mm)
*	75	280	¼	185	8	145	344	148	24	46	100	129	195	298	46
**	90	280	¼	200	12	160	348	150	24	46	100	129	195	302	57
	110	335	¼	225	12	180	395	176	24	46	100	129	195	349	69

	d (mm)	H10 (mm)	L (mm)	L2 (mm)
*	75	15	290	70
**	90	15	310	120
	110	20	350	120





**SYGEF Plus**  
**Diaphragm valve type DIASTAR 025**  
**Function FC (Fail safe to close)**  
**With fixed flanges PVDF Inch ANSI**

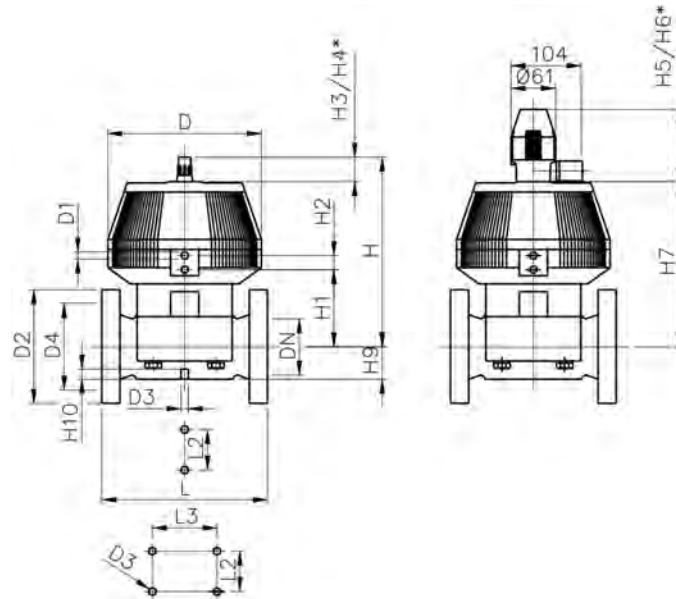
**Model:**

- Material: PVDF-HP
- Overall length according to EN 558
- Connecting dimension: ANSI/ASME B 16.5 class 150, ASTM D 4024, BS 1560, BS EN 1759
- With position indicator / Working pressure: **both sides**
- \* With backing flanges PP-V
- \*\* Connecting dimensions DN80 and DN150 metric and Inch ANSI B16.5

	d	Size	DN	PN	kv-value	PTFE/EPDM	Weight
	(mm)	(inch)	(mm)	(bar)	( $\Delta p=1$ bar)	Code	(kg)
					(L/min)		
*		2 ½	65	10	992	<b>199 025 387</b>	14.200
**	90	3	80	10	1700	<b>199 025 448</b>	17.400
		4	100	6	2700	<b>199 025 389</b>	26.500

	D	D1_G	D2	D3[M]	D4	H	H1	H2	H3	H4	H5	H6	H7	H9	H10
	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
*	280	¼	185	8	145	344	148	24	46	100	129	195	298	46	15
**	280	¼	200	12	160	348	150	24	46	100	129	195	302	57	15
	335	¼	225	12	180	395	176	24	46	100	129	195	349	69	20

	L	L2
	(mm)	(mm)
*	290	70
**	310	120
	350	120





**SYGEF Plus**  
**Diaphragm valve type DIASTAR 025**  
**Function FO (Fail safe to open)**  
**With fixed flanges PVDF metric**

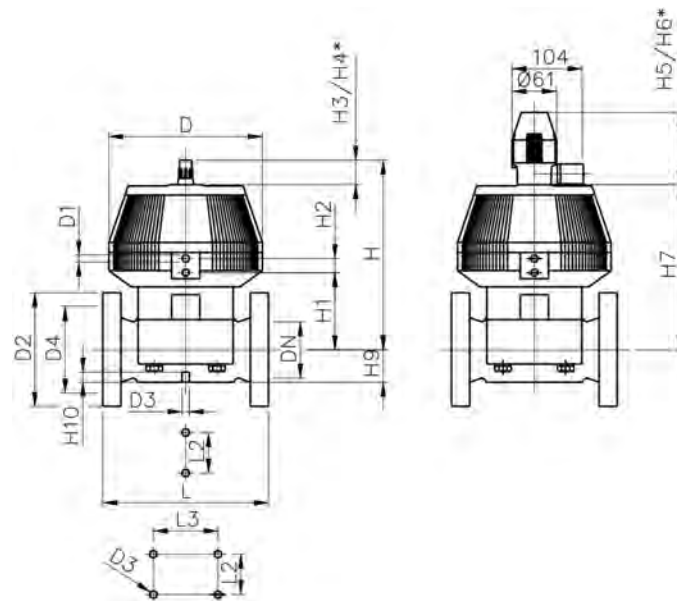
**Model:**

- Material: PVDF-HP
- Connecting dimension: ISO 7005 / EN 1092 / DIN 25 PN10 / BS4504
- With position indicator / Working pressure: on one side
- \* With backing flanges PP-V
- \*\* Connecting dimensions DN80 and DN150 metric and Inch ANSI B16.5

	d (mm)	Size (inch)	DN (mm)	PN (bar)	kv-value ( $\Delta p=1$ bar) (l/min)	PTFE/EPDM Code	Weight (kg)
*	75	2 ½	65	10	992	<b>199 025 457</b>	13.600
**	90	3	80	10	1700	<b>199 025 458</b>	17.400
	110	4	100	6	2700	<b>199 025 459</b>	24.700
**	160	6	150	6	6033	<b>199 025 460</b>	35.000

	d (mm)	D (mm)	D1_G (inch)	D2 (mm)	D3[M] (mm)	D4 (mm)	H (mm)	H1 (mm)	H2 (mm)	H3 (mm)	H4 (mm)	H5 (mm)	H6 (mm)	H7 (mm)	H9 (mm)
*	75	280	¼	185	8	145	344	148	24	46	100	129	195	298	46
**	90	280	¼	200	12	160	348	150	24	46	100	129	195	302	57
	110	335	¼	225	12	180	395	176	24	46	100	129	195	349	69
**	160	335	¼	285	12	240	455	237	24	46	100	129	195	409	108

	d (mm)	H10 (mm)	L (mm)	L2 (mm)	L3 (mm)
*	75	15	290	70	
**	90	15	310	120	
	110	20	350	120	
**	160	20	480	100	200





**SYGEF Plus**  
**Diaphragm valve type DIASTAR 025**  
**Function FO (Fail safe to open)**  
**With fixed flanges PVDF Inch ANSI**

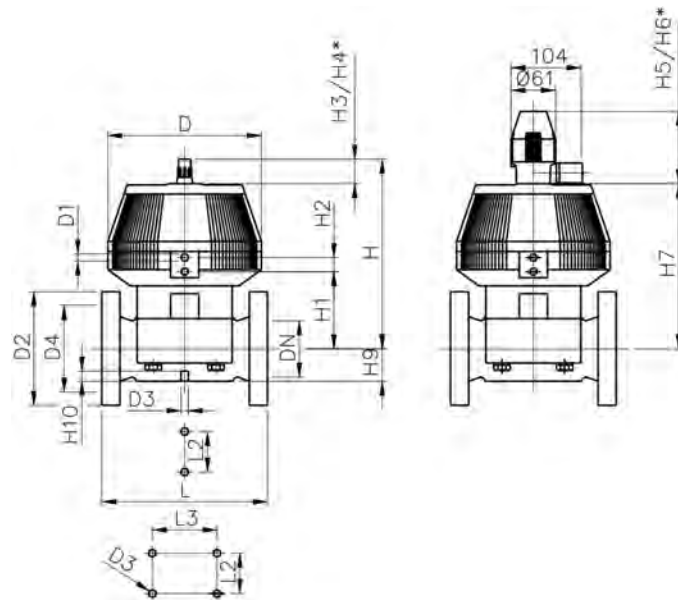
**Model:**

- Material: PVDF-HP
- Overall length according to EN 558
- Connecting dimension: ANSI/ASME B 16.5 class 150, ASTM D 4024, BS 1560, BS EN 1759
- With position indicator / Working pressure: on one side
- \* With backing flanges PP-V
- \*\* Connecting dimensions DN80 and DN150 metric and Inch ANSI B16.5

	d (mm)	Size (inch)	DN (mm)	PN (bar)	kv-value ( $\Delta p=1$ bar) (L/min)	PTFE/EPDM Code	Weight (kg)
*		2 ½	65	10	992	<b>199 025 397</b>	12.200
**	90	3	80	10	1700	<b>199 025 458</b>	17.400
		4	100	6	2700	<b>199 025 399</b>	23.400
**	160	6	150	6	6033	<b>199 025 460</b>	35.000

	D	D1_G	D2	D3[M]	D4	H	H1	H2	H3	H4	H5	H6	H7	H9	H10
	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
*	280	¼	185	8	145	344	148	24	46	100	129	195	298	46	15
**	280	¼	200	12	160	348	150	24	46	100	129	195	302	57	15
	335	¼	225	12	180	395	176	24	46	100	129	195	349	69	20
**	335	¼	285	12	240	455	237	24	46	100	129	195	409	108	20

	L	L2	L3
	(mm)	(mm)	(mm)
*	290	70	
**	310	120	
	350	120	
**	480	100	200







**SYGEF Plus**  
**Diaphragm valve type DIASTAR 025**  
**Function DA (Double acting)**  
**With fixed flanges PVDF metric**

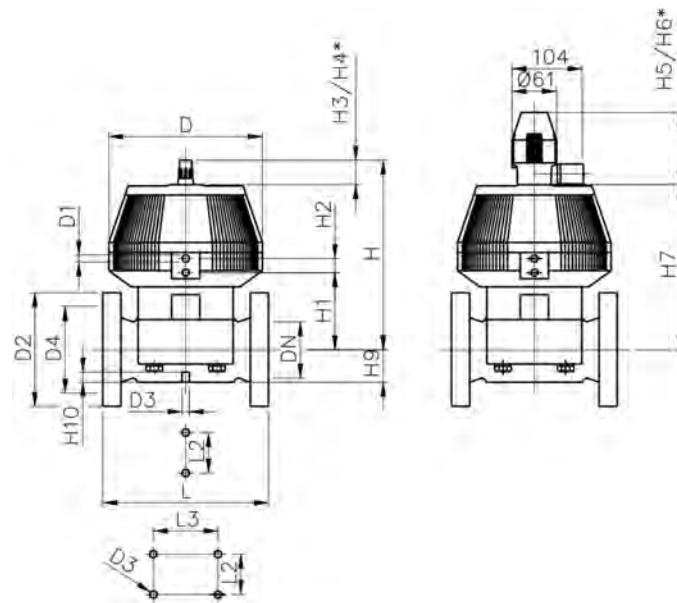
**Model:**

- Connecting dimension: ISO 7005 / EN 1092 / DIN 25 PN10 / BS4504
- With position indicator / Working pressure: on one side
- \* With backing flanges PP-V
- \*\* Connecting dimensions DN80 and DN150 metric and Inch ANSI B16.5

	d (mm)	DN (mm)	Size (inch)	PN (bar)	kv-value ( $\Delta p=1$ bar) (l/min)	PTFE/EPDM Code	Weight (kg)
*	75	65	2 ½	10	992	<b>199 025 467</b>	13.600
**	90	80	3	10	1700	<b>199 025 468</b>	17.400
	110	100	4	6	2700	<b>199 025 469</b>	24.700
**	160	150	6	6	6033	<b>199 025 470</b>	35.000

	d (mm)	D (mm)	D1_G (inch)	D2 (mm)	D3[M] (mm)	D4 (mm)	H (mm)	H1 (mm)	H2 (mm)	H3 (mm)	H4 (mm)	H5 (mm)	H6 (mm)	H7 (mm)	H9 (mm)
*	75	280	¼	185	8	145	344	148	24	46	100	125	195	298	46
**	90	280	¼	200	12	160	348	150	24	46	100	129	195	302	57
	110	335	¼	225	12	180	395	176	24	46	100	129	195	349	69
**	160	335	¼	285	12	240	455	237	24	46	100	129	195	409	108

	d (mm)	H10 (mm)	L (mm)	L2 (mm)	L3 (mm)
*	75	15	290	70	
**	90	15	310	120	
	110	20	350	120	
**	160	20	480	100	200





**SYGEF Plus**  
**Diaphragm valve type DIASTAR 025**  
**Function DA (Double acting)**  
**With fixed flanges PVDF Inch ANSI**

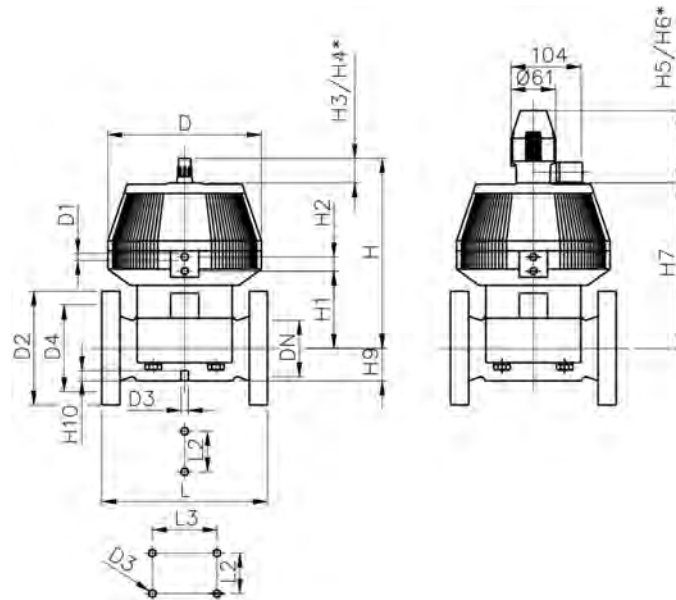
**Model:**

- Overall length according to EN 558
- Connecting dimension: ANSI/ASME B 16.5 class 150, ASTM D 4024, BS 1560, BS EN 1759
- With position indicator / Working pressure: on one side
- \* With backing flanges PP-V
- \*\* Connecting dimensions DN80 and DN150 metric and Inch ANSI B16.5

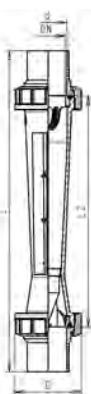
	d	Size	DN	PN	kv-value	PTFE/EPDM	Weight
	(mm)	(inch)	(mm)	(bar)	( $\Delta p=1$ bar)	Code	(kg)
						(l/min)	
*		2 1/2	65	10	992	<b>199 025 407</b>	13.600
**	90	3	80	10	1700	<b>199 025 468</b>	17.400
		4	100	6	2700	<b>199 025 409</b>	24.100
**	160	6	150	6	6033	<b>199 025 470</b>	35.000

	D	D1_G	D2	D3[M]	D4	H	H1	H2	H3	H4	H5	H6	H7	H9	H10
	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
*	280	1 1/4	185	8	145	344	148	24	46	100	125	195	298	46	15
**	280	1 1/4	200	12	160	348	150	24	46	100	129	195	302	57	15
	335	1 3/8	225	12	180	395	176	24	46	100	129	195	349	69	20
**	335	1 3/8	285	12	240	455	237	24	46	100	129	195	409	108	20

	L	L2	L3
	(mm)	(mm)	(mm)
*	290	70	
**	310	120	
	350	120	
**	480	100	200



## Special version PVDF-HP



**Special version PVDF-HP**  
**Float in PTFE without magnet**  
**With fusion spigots BCF/IR**

Type	d (mm)	DN (mm)	Scale range (l/h)	Scale range (gal/min)	Taper tube in Polysulfone O-rings in FPM Code	Weight (kg)	D (mm)	L (mm)	L2 (mm)	G (inch)
SK 70	32	25	68 - 204	0.3 - 0.9	<b>198 807 209</b>	0.383	60	318	200	1 ½
SK 71	32	25	90 - 295	0.4 - 1.3	<b>198 807 210</b>	0.387	60	318	200	1 ½
SK 73	32	25	136 - 795	0.6 - 3.5	<b>198 807 202</b>	0.401	60	318	200	1 ½
SK 20	50	40	568 - 2273	2.5 - 10.0	<b>198 807 203</b>	1.030	83	466	335	2 ¼
SK 21	50	40	909 - 4091	4.0 - 18.0	<b>198 807 204</b>	0.978	83	466	335	2 ¼
SK 30	63	50	1000 - 8142	4.4 - 36.0	<b>198 807 205</b>	1.500	103	472	335	2 ¾
SK 31	63	50	1000 - 9091	4.4 - 40.0	<b>198 807 206</b>	1.500	103	472	335	2 ¾
SK 40	75	65	1848 - 11364	8.0 - 50.0	<b>198 807 207</b>	2.500	122	495	335	3 ½
SK 41	75	65	2273 - 16364	10.0 - 72.0	<b>198 807 208</b>	2.500	122	495	335	3 ½

# Machines and Tools for Industrial Applications



# Infrared plastic fusion jointing machines

## IR-63 Plus Fusion Jointing Machine and Accessories



### IR-63 Plus® Fully-Equipped Machine

#### Model:

- Fully-equipped fusion jointing machine for welding SYGEF Standard, SYGEF Plus, PROGEF Standard, PROGEF Natural, PROGEF Plus, PE 100, PFA in dimensions d 20-63 mm with integrated remote welding unit, 2 USB interfaces, monochrome display with icons and 12 languages.
- 1-phase AC (50/60 Hz) 230 V L/N/PE
- Machine housing complete (1 pcs.)
- Heater assembly (1 pcs.)
- Remote weld device (1 pcs.)
- Facing tool (1 pcs.)
- Transport box (1 pcs.)
- Pipe stop (1 pcs.)
- Clamping inserts d 20-63 mm (8 pcs. per dimension)
- End caps PE d 20-63 mm (4 pcs. per dimension)
- Power supply cable 230 V (1 pcs.)
- Extension cable for remote weld device (1 pcs.)
- Extension cable for heater (1 pcs.)
- Extension cable for facing tool (1 pcs.)
- Cleaning brush No. 8 (1 pcs.)
- Hexagon key 3 mm (1 pcs.)
- Hexagon key 4 mm (1 pcs.)
- Heater protection shield (1 pcs.)
- Clamping unit extension (8 pcs.)
- Socket wrench (facing blades) (1 pcs.)
- Screw driver, Size 0 (1 pcs.)
- Accessory Tray (1 pcs.)
- Manual (1 pcs.)

d-d (mm)	Code	Weight (kg)
20 - 63	<b>790 131 005</b>	50.000



### Clamping inserts

- The clamping inserts are different for each dimension. They are used to clamp and position the pipe components.

d (mm)	Code	Weight (kg)	Pieces
20	<b>790 131 038</b>	0.090	1
25	<b>790 131 039</b>	0.090	1
32	<b>790 131 040</b>	0.052	1
40	<b>790 131 041</b>	0.074	1
50	<b>790 131 042</b>	0.100	1
63	<b>790 131 043</b>	0.035	1



### Set of facing knives

- A set includes two facing knives. Each facing knife has four blades. The blade may be turned three times before it must be replaced.

d-d (mm)	Code	Weight (kg)	Pieces
20 - 63	<b>790 131 045</b>	0.016	2



### Set of end caps

- A set includes 4 end caps. The end caps are different for each dimension. The ends of the pipe **must** be closed. The caps prevent heat loss due to airflow in the fusion zone and guarantee optimum fusion results of the pipe components.

d (mm)	Code	Weight (kg)	Pieces
20	<b>790 131 030</b>	0.040	4
25	<b>790 131 031</b>	0.010	4
32	<b>790 131 032</b>	0.088	4
40	<b>790 131 033</b>	0.005	4
50	<b>790 131 034</b>	0.005	4
63	<b>790 131 035</b>	0.023	4



### Pipe stop

- The pipe stop defines the allowance when the pipes are clamped into position.

d-d (mm)	Code	Weight (kg)	Pieces
20 - 63	<b>790 131 046</b>	0.430	1



### Extension cable for clamping slide

- The extension cable enables the fusion e. g. under the ceiling.

d-d (mm)	Code	Weight (lb)	Pieces
20 - 63	<b>790 131 047</b>	1.764	1



### Extension cable for heater

- The extension cable enables the fusion e. g. under the ceiling.

d-d (mm)	Code	Weight (kg)	Pieces
20 - 63	<b>790 131 049</b>	0.767	1



### Extension cable for facing tool

- The extension cable enables the fusion e. g. under the ceiling.

d-d (mm)	Code	Weight (kg)	Pieces
20 - 63	<b>790 131 048</b>	0.438	1



#### Heater protection shield

- Protects the heater from plastic chips during the facing process.

Code	Weight (kg)	Pieces
<b>790 131 051</b>	0.205	1

## IR-110 Plus Fusion Jointing Machine and Accessories



#### IR-110 Plus Fully-Equipped Machine

##### Model:

- Fully-equipped fusion jointing machine for welding SYGEF Standard, SYGEF Plus, PROGEF Standard, PROGEF Natural, PROGEF Plus, ecoFIT, PFA, ECTFE in dimensions d 20-110 mm, 2 USB interfaces, monochrome display with icons and 12 languages.
- 1-phase AC (50/60 Hz) 230 V L/N/PE
- Machine housing complete (1 pcs.)
- Heater and facing tool assembly (1 pcs.)
- Transport box (1 pcs.)
- Pipe stop (1 pcs.)
- Clamping inserts d 20-90 mm (8 pcs. per dimension)
- End caps PE d 20-110 mm (4 pcs. per dimension)
- Power supply cable 230 V (1 pcs.)
- Cleaning brush No. 8 (1 pcs.)
- Hexagon keys 4 mm (1 pcs.), 5 mm (1 pcs.), 6 mm (1 pcs.)
- Socket wrench (facing blades) (1 pcs.)
- Accessory Tray (1 pcs.)
- Manual (1 pcs.)

d-d (mm)	Code	Weight (kg)
20 - 110	<b>790 132 001</b>	75.000



#### Clamping inserts

- The clamping inserts are different for each dimension. They are used to clamp and position the pipe components.

d (mm)	Code	Weight (kg)	Pieces
20	<b>790 132 051</b>	0.108	1
25	<b>790 132 052</b>	0.106	1
32	<b>790 132 053</b>	0.104	1
40	<b>790 132 054</b>	0.100	1
50	<b>790 132 055</b>	0.095	1
63	<b>790 132 156</b>	0.085	1
75	<b>790 132 157</b>	0.087	1
90	<b>790 132 158</b>	0.064	1



### Clamping inserts PFA Sch. 40 rigid pipe

- The clamping inserts are different for each dimension. They are used to clamp and position the pipe components.

d (inch)	Code	Weight (kg)	Pieces
¼	<b>790 132 062</b>	0.109	1
½	<b>790 132 063</b>	0.107	1
¾	<b>790 132 064</b>	0.106	1
1	<b>790 132 065</b>	0.103	1
2	<b>790 132 066</b>	0.088	1



### Set of facing knives

- A set includes two facing knives. Each facing knife has four blades. The blade may be turned three times before it must be replaced.

d-d (mm)	Code	Weight (kg)	Pieces
20 - 110	<b>790 132 061</b>	0.007	2



### Set of end caps

- A set includes 4 end caps. The end caps are different for each dimension. The ends of the pipe **must** be closed. The caps prevent heat loss due to airflow in the fusion zone and guarantee optimum fusion results of the pipe components.

d (mm)	Code	Weight (kg)	Pieces
20	<b>790 131 030</b>	0.040	4
25	<b>790 131 031</b>	0.010	4
32	<b>790 131 032</b>	0.088	4
40	<b>790 131 033</b>	0.005	4
50	<b>790 131 034</b>	0.005	4
63	<b>790 131 035</b>	0.023	4
75	<b>790 133 036</b>	0.095	4
90	<b>790 133 037</b>	0.028	4
110	<b>790 133 038</b>	0.180	4



### Pipe stop

- The pipe stop defines the allowance when the pipes are clamped into position.

d-d (mm)	Code	Weight (kg)	Pieces
20 - 110	<b>790 132 059</b>	0.700	1



# IR-225 Plus Fusion Jointing Machine and Accessories



## IR-225 Plus Fully-Equipped Machine with HP Working Table (HP = High Purity)

### Model:

- Fully-equipped fusion jointing machine for welding SYGEF Standard, SYGEF Plus, PROGEF Standard, PROGEF Natural, PROGEF Plus, ecoFIT in dimensions d 63-225 mm, 2 USB interfaces, monochrome display with icons and 12 languages.
- Machine base (1 pcs.)
- Heater assembly (1 pcs.)
- Facing tool (1 pcs.)
- Movable clamping units (1 pcs.)
- Clamping inserts d 63-225 mm (8 pcs. per dimension)
- End caps PE d 63-225 mm (4 pcs. per dimension)
- Transportation lock (1 pcs.)
- Combination ring /open-jaw wrench 13 mm (1 pcs.)
- Cleaning brush (1 pcs.)
- Connecting cable 400 V - 230 V (1 pcs.)
- Ball for lever (1 pcs.)
- Manual (1 pcs.)
- 1-phase AC (50/60 Hz) 230 V L/N/PE or 3-phase AC (50/60 Hz) 400 V/230 V L1/L2/L3/N/PE
- Working table, HP (1 pcs.)
- Pipe stop (1 pcs.)
- Hexagon key 5 mm (1 pcs.)
- Hexagon key 6 mm (1 pcs.)

d-d (mm)	Code	Weight (kg)
63 - 225	<b>790 133 009</b>	453.000



### Clamping inserts

- The clamping inserts are different for each dimension. They are used to clamp and position the pipe components.

d (mm)	Code	Weight (kg)	Pieces
63	<b>790 133 026</b>	0.700	1
75	<b>790 133 027</b>	0.400	1
90	<b>790 133 028</b>	0.691	1
110	<b>790 133 029</b>	0.644	1
125	<b>790 133 030</b>	0.500	1
140	<b>790 133 031</b>	0.600	1
160	<b>790 133 032</b>	0.600	1
180	<b>790 133 463</b>	0.560	1
200	<b>790 133 033</b>	0.700	1
225	<b>790 133 034</b>	0.270	1



### Set of end caps

- A set includes 4 end caps. The end caps are different for each dimension. The ends of the pipe **must** be closed. The caps prevent heat loss due to airflow in the fusion zone and guarantee optimum fusion results of the pipe components.

d (mm)	Code	Weight (kg)	Pieces
63	<b>790 131 035</b>	0.023	4
75	<b>790 133 036</b>	0.095	4
90	<b>790 133 037</b>	0.028	4
110	<b>790 133 038</b>	0.180	4
125	<b>790 133 039</b>	0.150	4
140	<b>790 133 040</b>	0.180	4

table continued on the next page

d (mm)	Code	Weight (kg)	Pieces
160	790 133 041	0.045	4
180	790 133 494	0.095	4
200	790 133 042	0.080	4
225	790 133 043	0.400	4



#### Set of facing knives

- A set includes two facing knives. Each facing knife has four blades. The blade may be turned three times before it must be replaced.

d-d (mm)	Code	Weight (kg)	Pieces
63 - 225	790 133 046	0.125	2



#### Pipe stop

- The pipe stop defines the allowance when the pipes are clamped into position.

d-d (mm)	Code	Weight (kg)	Pieces
63 - 225	790 133 047	0.150	1

## IR-315 Plus Fusion Jointing Machine



#### IR-315 Plus Fully-Equipped Machine with HP Working Table (HP = High Purity)

Fully-equipped fusion jointing machine for welding SYGEF and SYGEF Plus, in dimensions d 225-315 mm, 2 USB interfaces, monochrome display with icons and 12 languages. **Supply:** 1-phase AC (50/60 Hz) 230 V L/N/PE or 3-phase AC (50/60 Hz) 400 V/230 V L1/L2/L3/N/PE **Delivery includes:** Machine base (1 pcs.) Heater assembly (1 pcs.) Facing tool (1 pcs.) Working table, HP (1 pcs.) Movable clamping units (1 pcs.) Clamping inserts d 225-315 mm (8 pcs. per dimension) End caps PE d 225-315 mm (4 pcs. per dimension) Transportation lock (1 pcs.) Pipe stop (1 pcs.) Hexagon key 5 mm (1 pcs.) Hexagon key 6 mm (1 pcs.) Combination ring /open-jaw wrench 13 mm (1 pcs.) Cleaning brush (1 pcs.) Connecting cable 400 V - 230 V (1 pcs.) Ball for lever (1 pcs.) Manual (1 pcs.)

d-d (mm)	Code	Weight (kg)
225 - 315	790 134 001	466.000

## IR-450 Fusion Jointing Machine



#### IR-450 Fully-Equipped Machine

##### Model:

- Fully-equipped semi automated fusion jointing machine for welding SYGEF Plus in dimension d 315-450, USB interfaces and touch screen with icons
- **Only a rental pool machine**

d-d (mm)	Code
315 - 450	

# Accessories for the IR-Plus plastic fusion jointing machines



## IR-Plus Win Weld

- The PC data transfer software makes it possible to manage and evaluate easily the recorded fusion data as required.
- **incl. Recordcard / USB stick**

	<b>Code</b>	<b>Weight</b> (kg)	<b>Description</b>	<b>Pieces</b>
Only works on XP	<b>790 131 471</b>	0.150	works with USB stick up to max. 2 GB	1

# BCF plastic fusion jointing machines

## BCF Plus Plastic Fusion Jointing Machine



### BCF Plus fully equipped machine d 20 - 63 mm

Fully-equipped machine for bead and crevice free jointing of SYGEF Standard, SYGEF Plus, PROGEF Natural of the dimensions d 20-63 mm with integrated remote welding unit, 2 USB interfaces, monochrome display with icons and 12 languages.

**Supply:**

1-phase AC (50/60 Hz) 115 / 230 V L/N/PE

**Delivery includes:**

- Machine housing (1 pcs.) incl. remote welding unit (1 pcs.)
- Transport box (1 pcs.)
- HP working table (1 pcs.)
- Heating stations d 20-63 mm (6 pcs.)
- Clamping units small (2 pcs.) with clamping inserts d 20-63 mm (24 pcs.)
- Facing tool small (1 pcs.) with facing inserts d 20-63 mm (6 pcs.)
- Facing tool support (1 pcs.)
- Hose box (1 pcs.) incl. air hose (1 pcs.)
- Supporting tools small d 20-63 mm (2 pcs.)
- BReT (1 pcs.)
- Hose cutter (1 pcs.)
- Air hose reducer (6-4 mm) (1 pcs.), air hose socket (4-4 mm) (1 pcs.)
- Extension cable (1 pcs.)
- Manual (1 pcs.)

d-d (mm)	Code	Weight (kg)
20 - 63	<b>790 121 002</b>	153.000



### BCF Plus fully-equipped machine d 20 - 110 mm

Fully-equipped machine for bead and crevice free jointing of SYGEF Standard, SYGEF Plus, PROGEF Natural of the dimensions d 20-110 mm with integrated remote welding unit. Bladders to be ordered separately.

**Supply:**

1-phase AC (50/60 Hz) 115 / 230 V L/N/PE

**Delivery includes:**

- Machine housing (1 pcs.) incl. remote welding unit (1 pcs.)
- Transport box (1 pcs.)
- HP working table (1 pcs.)
- Heating stations d 20-110 mm (9 pcs.)
- Clamping units small (2 pcs.) with clamping inserts d 20-63 mm (24 pcs.)
- Clamping units big (2 pcs.) with clamping inserts d 75-110 mm (12 pcs.)
- Adapter for clamping unit d 75-110 mm (2 pcs.)
- Facing tool small (1 pcs.) with facing inserts d 20-63 mm (6 pcs.)
- Facing tool big (1 pcs.) with facing inserts d 75-110 mm (3 pcs.)
- Facing tool support (1 pcs.)
- Hose box (1 pcs.) incl. air hose (1 pcs.)
- Supporting tools small d 20-63 mm (2 pcs.)
- Supporting tools big d 75-110 mm (2 pcs.)
- BReT (1 pcs.)
- Hose cutter (1 pcs.)
- Air hose reducer (6-4 mm) (1 pcs.), air hose socket (4-4 mm) (1 pcs.)
- Extension cable (1 pcs.)
- Manual (1 pcs.)

d-d (mm)	Code	Weight (kg)
20 - 110	<b>790 121 001</b>	188.000



### BCF Plus Heating stations

d (mm)	Code	Weight (kg)	Pieces
20	<b>790 121 111</b>	1.818	1
25	<b>790 121 112</b>	1.822	1
32	<b>790 121 113</b>	1.910	1
40	<b>790 121 114</b>	2.396	1
50	<b>790 121 115</b>	2.406	1
63	<b>790 121 116</b>	2.197	1
75	<b>790 121 117</b>	3.600	1
90	<b>790 121 118</b>	3.600	1
110	<b>790 121 119</b>	3.520	1



### BCF Bladder for SYGEF PVDF

- Only suitable for welding SYGEF PVDF and not for PROGEF Natural. **Silver bladder head!**

d (mm)	Code	Weight (kg)	Pieces
20	<b>790 122 041</b>	0.014	1
25	<b>790 122 042</b>	0.020	1
32	<b>790 122 043</b>	0.037	1
40	<b>790 122 044</b>	0.078	1
50	<b>790 122 045</b>	0.132	1
63	<b>790 122 046</b>	0.138	1
75	<b>790 121 047</b>	0.203	1
90	<b>790 121 048</b>	0.265	1
110	<b>790 121 049</b>	0.552	1



### BCF Plus Bladder for PROGEF Natural

- Only suitable for welding PROGEF Natural and not for SYGEF PVDF . **Blue bladder head!** d75 - 110 same as bladder for SYGEF PVDF (silver bladder head).

d (mm)	Code	Weight (kg)	Pieces
20	<b>790 122 091</b>	0.038	1
25	<b>790 122 092</b>	0.021	1
32	<b>790 122 093</b>	0.040	1
40	<b>790 122 094</b>	0.050	1
50	<b>790 122 095</b>	0.105	1
63	<b>790 122 096</b>	0.138	1
75	<b>790 121 047</b>	0.203	1
90	<b>790 121 048</b>	0.265	1
110	<b>790 121 049</b>	0.552	1



### BCF Plus facing tool

- Inclusive crank handle, mounting material and clamping inserts. Suitable for SYGEF (PVDF) as well as PROGEF Natural.

d-d (mm)	Code	Weight (kg)	Pieces
20 - 63	<b>790 121 052</b>	2.339	1
75 - 110	<b>790 121 053</b>	3.000	1



### BCF Plus clamping inserts for the facing tool

- These dimension-specific parts are inserted into the facing tool, in order to be able to face the end of the pipes smoothly and parallel.

d (mm)	Code	Weight (kg)	Pieces
20	<b>790 121 061</b>	0.160	1
25	<b>790 121 062</b>	0.146	1
32	<b>790 121 063</b>	0.135	1
40	<b>790 121 064</b>	0.125	1
50	<b>790 121 065</b>	0.100	1
63	<b>790 121 066</b>	0.050	1
75	<b>790 121 067</b>	0.300	1
90	<b>790 121 068</b>	0.200	1
110	<b>790 121 069</b>	0.090	1



### BCF Plus facing tool mounting plate

- To fix the facing tool on the workbench.

d-d (mm)	Code	Weight (kg)	Pieces
20 - 110	<b>790 121 055</b>	1.200	1



### BCF Plus clamping units

- The clamping units are adjustable, so that all types of pipes and fittings can be clamped.

d-d (mm)	Code	Weight (kg)	Pieces
20 - 63	<b>790 121 034</b>	0.600	1
75 - 110	<b>790 121 035</b>	0.900	1



### BCF Plus adapter for clamping unit d 75-110 mm

- The adapter makes it possible, to insert clamping inserts with d 20-63 mm in clamping units with d 75-110 mm to be able to clamp pipes and fittings with d 20-63 mm with these clamping units.

d-d (mm)	Code	Weight (kg)	Pieces
75 - 110	<b>790 121 038</b>	0.250	1



### BCF Plus clamping inserts

- The clamping inserts are suitable for the clamping units of the BCF Plus machine. They are used to clamp the piping components.
- No clamping inserts are needed for d 110 mm!**

d (mm)	Code	Weight (kg)	Pieces
20	<b>790 131 038</b>	0.090	1
25	<b>790 131 039</b>	0.090	1
32	<b>790 131 040</b>	0.052	1
40	<b>790 131 041</b>	0.074	1
50	<b>790 131 042</b>	0.100	1
63	<b>790 131 043</b>	0.035	1
75	<b>790 121 036</b>	0.143	1
90	<b>790 121 037</b>	0.095	1



### BCF Plus hose box incl. hose

- For the clean and professional storage of the air hose.

d (mm)	Code	Weight (kg)	Length (m)	Pieces
4	<b>790 121 151</b>	1.114	16	1



### BCF Plus hose

- Connection hose for the BCF Plus bladder.

d (mm)	Code	Weight (kg)	Length (m)
4	<b>790 122 087</b>	0.121	16



### BCF Plus supporting tool

- Helpful to fix 45°- angle components.

d-d (mm)	Code	Weight (kg)	Pieces
20 - 63	<b>790 121 072</b>	0.542	1
75 - 110	<b>790 121 073</b>	0.942	1



### BCF Plus bladder/ hose remove tool (BReT)

- Helpful to remove bladders easily.

Code	Weight (kg)	Pieces
<b>790 121 075</b>	0.079	1



### BCF Plus extension cable

- The extension cable enable the fusion e. g. under the ceiling.

Code	Weight (kg)	Length (mm)
<b>790 122 989</b>	1.000	8

## Accessories for the BCF Plus plastic fusion jointing machine



### Hose cutter

d-d (mm)	Code	Weight (kg)	Pieces
4 - 6	<b>790 122 106</b>	0.031	1



### Socket for compressed air hose

d (mm)	Code	Weight (kg)	Pieces
4	<b>790 122 104</b>	0.002	1



### BCF Plus Win Weld

- **incl. Recordcard / USB stick**
- The PC data transfer software makes it possible to manage and evaluate easily the recorded fusion data as required.
- Works with USB stick up to max. 2 GB

Code	Weight (kg)	Pieces
Only works on XP <b>790 121 471</b>	0.080	1



# SG 125 Socket fusion machine



## SG 125 Socket fusion machine

- Portable heating element - socket fusion machine for use in the workshop and on job sites.
- For fusion jointing of PP, PE, PB and PVDF pipes and fittings; dimension 20 - 125 mm
- **BASE MACHINE**
- Compact, sturdy design, distortion-free machine bed
- Handwheel with torque locking mechanism for the slide movement
- Fast selection of insertion depth according to the pipe dimension
- **HEATER**
- With electronic temperature control
- High temperature accuracy over the entire heating surface
- **ADDITIONAL STANDARD EQUIPMENT**
- Universal, left and right prismatic clamping devices, complete, for clamping pipe and fittings. Additional set of prismatic clamping devices for outer clamping of pipes available as an option.
- V-shaped pipe support d 20 - 125 mm
- Back stop
- Machine specific tool set
- Timer to clock fusion times
- Including transport packaging, without accessories

	<b>d-d</b> (mm)	<b>Performance</b>	<b>Code</b>	<b>Weight</b> (kg)
	20 - 125	230 V/1500 W	<b>790 310 034</b>	65.000
	20 - 125	115 V/1500 W	<b>790 310 036</b>	65.000

# SG 125 Accessories



## Gloves

Code	Weight (kg)
<b>761 066 799</b>	0.115



## Heating spigots and bushes

- For socket fusion systems in PP, PE and PVDF
- Always delivered in pairs (also usable for SG 110, SG 125, not for SG 160)
- Type B according to DVS 2208-1 (mechanical calibrated pipe ends)

d (mm)	Code	Weight (kg)
20	<b>799 300 156</b>	0.090
25	<b>799 300 157</b>	0.154
32	<b>799 300 158</b>	0.211
40	<b>799 300 159</b>	0.309
50	<b>799 300 160</b>	0.434
63	<b>799 300 161</b>	0.594



## Manual pipe peeling tool

- For socket fusion systems in PP, PE and PVDF

d (mm)	Code	Weight (kg)
20	<b>799 300 260</b>	0.087
25	<b>799 300 270</b>	0.080
32	<b>799 300 280</b>	0.099
40	<b>799 300 290</b>	0.240
50	<b>799 300 300</b>	0.244
63	<b>799 300 310</b>	0.507



## Tempil sticks

Temperature (°C)	Code	Weight (kg)	Color
253	<b>761 066 796</b>	0.012	yellow
274	<b>761 066 797</b>	0.014	red



## Special transport crate

Code	Weight (kg)
<b>790 310 099</b>	26.000

# Accessories for plastic fusion jointing machines

## Accessories for the IR Plus and BFC Plus fusion machines



### KS Tangit Cleaner

- Special cleaner for plastic fusion connections in the material of PP, PE, PVDF and PB
- DVGW approved
- DW 5290 BR 0464

Size	Code	Weight (kg)
1 liter	<b>799 298 023</b>	0.872



### Degreasing Tissues

- For degreasing the PE pipe surface prior to fusion

description	Type	Code	Weight (kg)
For pipes up to d225 mm	large	<b>799 496 011</b>	0.008



### Cleaning tissue KO-TON-R

Minimum order quantity 100 pieces

- This cleaning tissue is suitable for the cleaning of the welding zone of piping components, because it is lint free and clean room checked.

Code	Weight (kg)
<b>790 122 085</b>	0.005

## PPC Plastic pipe cutter



### PPC Plastic pipe cutter

For cutting plastic pipes d10 - d160

d-d (mm)	Article	Code	Weight (kg)	Closest inch (inch)
10 - 63	PPC 63, s max. = 7.2mm	<b>790 109 001</b>	0.865	1/8 - 2
50 - 110	PPC 110, s max. = 12.7mm	<b>790 109 002</b>	1.624	1 1/2 - 4
110 - 160	PPC 160, s max. = 19.0mm	<b>790 109 003</b>	2.212	4 - 6



### Replacement cutting wheels

For plastic pipe cutter

d-d (mm)	Article	Code	Weight (kg)
10 - 63	SR 63 max. s=7,2 mm	<b>790 109 011</b>	0.004
50 - 110	SR 110/160 max. s=12,7 mm	<b>790 109 012</b>	0.015
110 - 160	SR 160 max. s=19,0 mm	<b>790 109 013</b>	0.023

## Miscellaneous accessories org



Timer with 2 stop times

Code Weight  
(kg)

<u>790 114 028</u>	<u>0.088</u>
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# Index

Code	Page	Code	Page	Code	Page	Code	Page
150 530 001	279	175 317 568	330	175 481 203	284	175 543 052	70
150 530 002	279	175 369 022	110	175 481 204	284	175 543 053	70
150 530 003	279	175 369 023	110	175 481 205	284	175 543 054	70
150 530 202	279	175 369 024	110	175 481 206	284	175 543 055	70
150 530 203	279	175 369 025	110	175 481 207	284	175 543 056	70
150 530 204	279	175 369 026	110	175 481 208	284	175 543 057	70
155 400 674	42	175 369 027	110	175 481 209	284	175 543 071	74
155 400 675	42	175 369 029	110	175 481 210	284	175 543 072	74
155 400 676	42	175 369 030	110	175 481 211	284	175 543 073	74
155 701 806	41, 315	175 369 031	110	175 481 213	284	175 543 074	74
155 701 807	41, 315	175 369 032	110	175 481 214	284	175 543 075	74
155 701 808	41, 315	175 369 033	110	175 481 216	284	175 543 076	74
155 701 809	41, 315	175 369 062	114	175 481 217	284	175 543 077	74
155 701 810	41, 315	175 369 063	114	175 481 218	284	175 543 111	76
155 701 811	41, 315	175 369 064	114	175 481 219	284	175 543 112	76
155 701 812	41, 315	175 369 065	114	175 481 220	284	175 543 113	76
155 701 813	41, 315	175 369 066	114	175 481 656	284	175 543 114	76
155 701 917	41, 315	175 369 067	114	175 481 657	284	175 543 115	76
155 701 919	41, 315	175 369 069	114	175 481 658	284	175 543 116	76
155 701 920	41, 315	175 369 070	114	175 481 659	284	175 543 117	76
155 701 921	41, 315	175 369 071	114	175 481 665	284	175 543 131	77
155 701 923	41, 315	175 369 072	114	175 481 666	284	175 543 132	77
155 701 924	41, 315	175 369 073	114	175 481 667	284	175 543 133	77
155 701 925	41, 315	175 369 102	112	175 481 668	284	175 543 134	77
155 703 814	41, 315	175 369 103	112	175 481 669	284	175 543 135	77
157 320 001	278	175 369 104	112	175 481 670	284	175 543 136	77
157 321 001	278	175 369 105	112	175 481 671	284	175 543 137	77
167 530 123	277	175 369 106	112	175 481 673	284	175 543 152	75
167 530 124	277	175 369 107	112	175 481 674	284	175 543 153	75
167 530 125	277	175 369 109	112	175 523 411	80	175 543 154	75
167 530 126	277	175 369 110	112	175 523 412	80	175 543 155	75
167 530 127	277	175 369 111	112	175 523 492	80	175 543 156	75
167 530 128	277	175 369 112	112	175 530 010	279	175 543 157	75
167 530 144	277	175 369 113	112	175 530 011	277	175 543 171	79
167 530 145	277	175 480 202	24	175 530 012	278	175 543 172	79
167 530 146	277	175 480 203	24	175 530 013	279	175 543 173	79
167 530 147	277	175 480 204	24	175 530 014	279	175 543 174	79
167 530 148	277	175 480 205	24	175 530 015	279	175 543 175	79
167 530 164	277	175 480 206	24	175 530 016	279	175 543 176	79
167 530 165	277	175 480 207	24	175 530 017	279	175 543 177	79
167 530 166	277	175 480 208	24	175 530 101	276	175 543 211	140
167 530 167	277	175 480 209	24	175 530 102	276	175 543 212	140
167 530 168	277	175 480 210	24	175 530 103	276	175 543 213	140
167 530 225	277	175 480 211	24	175 530 104	276	175 543 214	140
167 530 226	277	175 480 213	24	175 530 105	276	175 543 215	140
167 530 227	277	175 480 214	24	175 530 106	276	175 543 216	140
167 530 245	277	175 480 216	24	175 530 107	276	175 543 217	140
167 530 246	277	175 480 217	24	175 530 118	276	175 543 252	139
167 530 247	277	175 480 218	24	175 543 011	71	175 543 253	139
167 530 265	277	175 480 219	24	175 543 012	71	175 543 254	139
167 530 266	277	175 480 220	24	175 543 013	71	175 543 255	139
167 530 267	277	175 480 656	24	175 543 014	71	175 543 256	139
168 530 013	279	175 480 665	24	175 543 015	71	175 543 257	139
168 530 014	279	175 480 666	24	175 543 016	71	175 543 311	138
168 530 015	279	175 480 667	24	175 543 017	71	175 543 312	138
168 530 016	279	175 480 668	24	175 543 031	73	175 543 313	138
168 530 017	279	175 480 669	24	175 543 032	73	175 543 314	138
175 317 054	329, 330	175 480 670	24	175 543 033	73	175 543 315	138
175 317 055	329	175 480 671	24	175 543 034	73	175 543 316	138
175 317 057	329	175 480 673	24	175 543 035	73	175 543 317	138
175 317 355	330	175 480 674	24	175 543 036	73	175 543 352	136
175 317 453	329	175 481 202	284	175 543 037	73	175 543 353	136

# Index

Code	Page	Code	Page	Code	Page	Code	Page
175 543 354	136	175 546 057	61	175 546 472	133	175 561 057	120
175 543 355	136	175 546 092	60	175 546 473	133	175 561 092	118
175 543 356	136	175 546 093	60	175 546 474	133	175 561 093	118
175 543 357	136	175 546 094	60	175 546 475	133	175 561 094	118
175 543 411	141	175 546 095	60	175 546 476	133	175 561 095	118
175 543 412	141	175 546 096	60	175 546 477	133	175 561 096	118
175 543 413	141	175 546 097	60	175 546 478	133	175 561 097	118
175 543 414	141	175 546 098	60	175 546 479	133	175 561 098	118
175 543 415	141	175 546 099	60	175 546 480	133	175 561 099	118
175 543 416	141	175 546 100	60	175 546 492	129	175 561 100	118
175 543 417	141	175 546 192	64	175 546 493	129	175 561 111	119
175 543 511	137	175 546 193	64	175 546 494	129	175 561 112	119
175 543 512	137	175 546 194	64	175 546 495	129	175 561 113	119
175 543 513	137	175 546 195	64	175 546 496	129	175 561 114	119
175 543 514	137	175 546 196	64	175 546 497	129	175 561 115	119
175 543 515	137	175 546 197	64	175 546 498	129	175 561 116	119
175 543 516	137	175 546 272	59	175 546 499	129	175 561 117	119
175 543 517	137	175 546 273	59	175 546 500	129	175 561 192	119
175 543 611	135	175 546 274	59	175 546 691	132	175 561 193	119
175 543 612	135	175 546 275	59	175 546 692	132	175 561 194	119
175 543 613	135	175 546 276	59	175 546 693	132	175 561 195	119
175 543 614	135	175 546 277	59	175 546 694	132	175 561 196	119
175 543 615	135	175 546 278	59	175 546 695	132	175 561 197	119
175 543 616	135	175 546 279	59	175 546 696	132	175 561 211	145
175 543 617	135	175 546 280	59	175 546 697	132	175 561 212	145
175 543 631	134	175 546 331	66	175 546 698	132	175 561 213	145
175 543 632	134	175 546 332	66	175 546 699	132	175 561 214	145
175 543 633	134	175 546 333	66	175 546 700	132	175 561 215	145
175 543 634	134	175 546 334	66	175 546 752	130	175 561 216	145
175 543 635	134	175 546 335	66	175 546 753	130	175 561 217	145
175 543 636	134	175 546 336	66	175 546 754	130	175 561 218	145
175 543 637	134	175 546 337	66	175 546 755	130	175 561 219	145
175 543 641	72	175 546 411	63	175 546 756	130	175 561 220	145
175 543 642	72	175 546 412	63	175 546 757	130	175 561 232	144
175 543 643	72	175 546 413	63	175 546 758	130	175 561 233	144
175 543 644	72	175 546 414	63	175 546 759	130	175 561 234	144
175 543 645	72	175 546 415	63	175 546 760	130	175 561 235	144
175 543 646	72	175 546 416	63	175 546 808	65	175 561 236	144
175 543 647	72	175 546 417	63	175 546 809	65	175 561 237	144
175 543 651	78	175 546 418	63	175 546 810	65	175 561 272	144
175 543 652	78	175 546 419	63	175 546 818	65	175 561 273	144
175 543 653	78	175 546 420	63	175 546 819	65	175 561 274	144
175 543 654	78	175 546 431	68	175 546 820	65	175 561 275	144
175 543 655	78	175 546 432	68	175 546 828	131	175 561 276	144
175 543 656	78	175 546 433	68	175 546 829	131	175 561 277	144
175 543 657	78	175 546 434	68	175 546 830	131	175 561 278	144
175 546 011	62	175 546 435	68	175 546 838	131	175 561 279	144
175 546 012	62	175 546 436	68	175 546 839	131	175 561 280	144
175 546 013	62	175 546 437	68	175 546 840	131	175 561 288	118
175 546 014	62	175 546 438	68	175 561 011	120	175 561 289	118
175 546 015	62	175 546 439	68	175 561 012	120	175 561 290	118
175 546 016	62	175 546 440	68	175 561 013	120	175 562 011	116
175 546 017	62	175 546 442	67	175 561 014	120	175 562 012	116
175 546 018	62	175 546 443	67	175 561 015	120	175 562 013	116
175 546 019	62	175 546 444	67	175 561 016	120	175 562 014	116
175 546 020	62	175 546 445	67	175 561 017	120	175 562 015	116
175 546 051	61	175 546 446	67	175 561 051	120	175 562 016	116
175 546 052	61	175 546 447	67	175 561 052	120	175 562 017	116
175 546 053	61	175 546 448	67	175 561 053	120	175 562 018	116
175 546 054	61	175 546 449	67	175 561 054	120	175 562 019	116
175 546 055	61	175 546 450	67	175 561 055	120	175 562 020	116
175 546 056	61	175 546 471	133	175 561 056	120	175 562 051	117

# Index

Code	Page	Code	Page	Code	Page	Code	Page
175 562 052	117	175 567 008	89	175 568 007	92	175 568 846	94
175 562 053	117	175 567 009	89	175 568 008	92	175 568 847	94
175 562 054	117	175 567 010	89	175 568 022	93	175 568 848	94
175 562 055	117	175 567 022	90	175 568 023	93	175 568 922	97
175 562 056	117	175 567 023	90	175 568 024	93	175 568 923	97
175 562 057	117	175 567 024	90	175 568 025	93	175 568 924	97
175 562 092	117	175 567 025	90	175 568 026	93	175 568 925	97
175 562 093	117	175 567 026	90	175 568 027	93	175 568 926	97
175 562 094	117	175 567 027	90	175 568 028	93	175 568 927	97
175 562 095	117	175 567 028	90	175 568 102	95	175 568 928	97
175 562 096	117	175 567 029	90	175 568 103	95	175 568 942	97
175 562 097	117	175 567 030	90	175 568 104	95	175 568 943	97
175 562 098	117	175 567 202	89	175 568 105	95	175 568 944	97
175 562 099	117	175 567 203	89	175 568 106	95	175 568 945	97
175 562 100	117	175 567 204	89	175 568 107	95	175 568 946	97
175 562 111	122	175 567 205	89	175 568 108	95	175 568 947	97
175 562 112	122	175 567 206	89	175 568 122	96	175 568 948	97
175 562 113	122	175 567 207	89	175 568 123	96	175 578 002	98
175 562 114	122	175 567 208	89	175 568 124	96	175 578 003	98
175 562 115	122	175 567 209	89	175 568 125	96	175 578 004	98
175 562 116	122	175 567 210	89	175 568 126	96	175 578 005	98
175 562 117	122	175 567 222	90	175 568 127	96	175 578 006	98
175 562 192	122	175 567 223	90	175 568 128	96	175 578 007	98
175 562 193	122	175 567 224	90	175 568 202	92	175 578 008	98
175 562 194	122	175 567 225	90	175 568 203	92	175 578 009	98
175 562 195	122	175 567 226	90	175 568 204	92	175 578 010	98
175 562 196	122	175 567 227	90	175 568 205	92	175 578 022	99
175 562 197	122	175 567 228	90	175 568 206	92	175 578 023	99
175 562 211	142	175 567 229	90	175 568 207	92	175 578 024	99
175 562 212	142	175 567 230	90	175 568 208	92	175 578 025	99
175 562 213	142	175 567 622	322	175 568 208	92	175 578 026	99
175 562 214	142	175 567 623	322	175 568 222	93	175 578 027	99
175 562 215	142	175 567 624	322	175 568 223	93	175 578 027	99
175 562 216	142	175 567 624	322	175 568 224	93	175 578 028	99
175 562 216	142	175 567 625	322	175 568 225	93	175 578 029	99
175 562 217	142	175 567 626	322	175 568 226	93	175 578 030	99
175 562 218	142	175 567 627	322	175 568 227	93	175 578 102	101
175 562 219	142	175 567 628	322	175 568 228	93	175 578 103	101
175 562 220	142	175 567 629	322	175 568 302	95	175 578 104	101
175 562 232	143	175 567 630	322	175 568 303	95	175 578 105	101
175 562 233	143	175 567 822	91	175 568 304	95	175 578 106	101
175 562 234	143	175 567 823	91	175 568 305	95	175 578 107	101
175 562 235	143	175 567 824	91	175 568 306	95	175 578 108	101
175 562 236	143	175 567 825	91	175 568 307	95	175 578 109	101
175 562 237	143	175 567 826	91	175 568 308	95	175 578 110	101
175 562 272	143	175 567 827	91	175 568 322	96	175 578 122	102
175 562 273	143	175 567 827	91	175 568 323	96	175 578 123	102
175 562 274	143	175 567 828	91	175 568 323	96	175 578 123	102
175 562 274	143	175 567 829	91	175 568 324	96	175 578 124	102
175 562 275	143	175 567 830	91	175 568 325	96	175 578 125	102
175 562 276	143	175 567 842	91	175 568 326	96	175 578 126	102
175 562 277	143	175 567 843	91	175 568 327	96	175 578 127	102
175 562 278	143	175 567 844	91	175 568 328	96	175 578 128	102
175 562 279	143	175 567 845	91	175 568 822	94	175 578 129	102
175 562 280	143	175 567 846	91	175 568 823	94	175 578 130	102
175 562 288	121	175 567 847	91	175 568 824	94	175 578 822	100
175 562 289	121	175 567 848	91	175 568 825	94	175 578 823	100
175 562 290	121	175 567 849	91	175 568 826	94	175 578 824	100
175 567 002	89	175 567 850	91	175 568 827	94	175 578 825	100
175 567 003	89	175 568 002	92	175 568 827	94	175 578 826	100
175 567 004	89	175 568 003	92	175 568 828	94	175 578 827	100
175 567 005	89	175 568 004	92	175 568 842	94	175 578 827	100
175 567 006	89	175 568 004	92	175 568 843	94	175 578 828	100
175 567 007	89	175 568 005	92	175 568 843	94	175 578 828	100
		175 568 006	92	175 568 844	94	175 578 829	100
				175 568 845	94	175 578 830	100

# Index

Code	Page	Code	Page	Code	Page	Code	Page
175 578 922	103	180 519 312	325	180 634 133	341	180 655 134	339
175 578 923	103	180 519 313	325	180 634 134	341	180 655 135	339
175 578 924	103	180 519 314	325	180 634 135	341	180 655 136	339
175 578 925	103	180 519 315	325	180 634 136	341	180 655 137	339
175 578 926	103	180 519 318	325	180 634 137	341	180 659 301	337
175 578 927	103	180 519 319	325	180 635 132	342	180 659 303	337
175 578 928	103	180 519 320	325	180 635 133	342	180 659 304	337
175 578 929	103	180 519 321	325	180 635 134	342	180 659 307	337
175 578 930	103	180 519 322	325	180 635 135	342	180 659 308	337
175 591 011	125	180 519 325	325	180 635 136	342	180 659 309	337
175 591 012	125	180 519 326	325	180 635 137	342	180 659 312	337
175 591 013	125	180 519 327	325	180 639 301	343	180 659 313	337
175 591 014	125	180 519 328	325	180 639 303	343	180 659 314	337
175 591 015	125	180 519 329	325	180 639 304	343	180 659 315	337
175 591 016	125	180 519 330	325	180 639 307	343	180 659 318	337
175 591 017	125	180 519 341	325	180 639 308	343	180 659 319	337
175 591 018	125	180 519 342	325	180 639 309	343	180 659 320	337
175 591 019	125	180 519 343	325	180 639 312	343	180 659 321	337
175 591 020	125	180 519 345	325	180 639 313	343	180 659 322	337
175 591 031	125	180 519 346	325	180 639 314	343	180 659 325	337
175 591 032	125	180 519 351	325	180 639 315	343	180 659 326	337
175 591 033	125	180 519 352	325	180 639 318	343	180 659 327	337
175 591 034	125	180 519 353	325	180 639 319	343	180 659 328	337
175 591 035	125	180 519 355	325	180 639 320	343	180 659 329	337
175 591 036	125	180 519 356	325	180 639 321	343	180 659 330	337
175 591 037	125	180 582 012	331	180 639 322	343	180 659 341	337
175 595 011	124	180 582 013	331	180 639 325	343	180 659 342	337
175 595 012	124	180 582 014	331	180 639 326	343	180 659 343	337
175 595 013	124	180 582 015	331	180 639 327	343	180 659 345	337
175 595 014	124	180 582 016	331	180 639 328	343	180 659 346	337
175 595 015	124	180 582 017	331	180 639 329	343	180 659 351	337
175 595 016	124	180 582 512	332	180 639 330	343	180 659 352	337
175 595 017	124	180 582 513	332	180 639 341	343	180 659 353	337
175 595 018	124	180 582 514	332	180 639 342	343	180 659 355	337
175 595 019	124	180 582 515	332	180 639 343	343	180 659 356	337
175 595 020	124	180 582 516	332	180 639 345	343	181 514 132	326
175 595 031	124	180 582 517	332	180 639 346	343	181 514 133	326
175 595 032	124	180 624 132	333	180 639 351	343	181 514 134	326
175 595 033	124	180 624 133	333	180 639 352	343	181 514 135	326
175 595 034	124	180 624 134	333	180 639 353	343	181 514 136	326
175 595 035	124	180 624 135	333	180 639 355	343	181 514 137	326
175 595 036	124	180 624 136	333	180 639 356	343	181 514 152	326
175 595 037	124	180 624 137	333	180 644 132	335	181 514 153	326
178 530 001	279	180 624 152	333	180 644 133	335	181 514 154	326
180 514 132	323	180 624 153	333	180 644 134	335	181 514 155	326
180 514 133	323	180 624 154	333	180 644 135	335	181 514 156	326
180 514 134	323	180 624 155	333	180 644 136	335	181 514 157	326
180 514 135	323	180 624 156	333	180 644 137	335	181 515 132	327
180 514 136	323	180 624 157	333	180 645 132	336	181 515 133	327
180 514 137	323	180 625 132	334	180 645 133	336	181 515 134	327
180 515 132	324	180 625 133	334	180 645 134	336	181 515 135	327
180 515 133	324	180 625 134	334	180 645 135	336	181 515 136	327
180 515 134	324	180 625 135	334	180 645 136	336	181 515 137	327
180 515 135	324	180 625 136	334	180 645 137	336	181 515 152	327
180 515 136	324	180 625 137	334	180 654 132	340	181 515 153	327
180 515 137	324	180 625 152	334	180 654 133	340	181 515 154	327
180 519 301	325	180 625 153	334	180 654 134	340	181 515 155	327
180 519 303	325	180 625 154	334	180 654 135	340	181 515 156	327
180 519 304	325	180 625 155	334	180 654 136	340	181 515 157	327
180 519 307	325	180 625 156	334	180 654 137	340	181 519 301	327
180 519 308	325	180 625 157	334	180 655 132	339	181 519 303	327
180 519 309	325	180 634 132	341	180 655 133	339	181 519 304	327



# Index

Code	Page	Code	Page	Code	Page	Code	Page
181 519 307	327	181 684 135	345	181 689 518	347	185 517 137	87
181 519 308	327	181 684 136	345	181 689 519	347	185 517 152	87
181 519 309	327	181 684 137	345	181 689 520	347	185 517 153	87
181 519 312	327	181 684 152	345	181 689 521	347	185 517 154	87
181 519 313	327	181 684 153	345	181 689 522	347	185 517 155	87
181 519 314	327	181 684 154	345	181 689 525	347	185 517 156	87
181 519 315	327	181 684 155	345	181 689 526	347	185 517 157	87
181 519 318	327	181 684 156	345	181 689 527	347	185 517 732	87
181 519 319	327	181 684 157	345	181 689 528	347	185 517 733	87
181 519 320	327	181 685 132	346	181 689 529	347	185 517 734	87
181 519 321	327	181 685 133	346	181 689 530	347	185 517 735	87
181 519 322	328	181 685 134	346	181 689 541	347	185 517 736	87
181 519 325	328	181 685 135	346	181 689 542	347	185 517 737	87
181 519 326	328	181 685 136	346	181 689 543	347	185 517 752	87
181 519 327	328	181 685 137	346	181 689 545	347	185 517 753	87
181 519 328	328	181 685 152	346	181 689 546	347	185 517 754	87
181 519 329	328	181 685 153	346	181 689 551	347	185 517 755	87
181 519 330	328	181 685 154	346	181 689 552	347	185 517 756	87
181 519 341	328	181 685 155	346	181 689 553	347	185 517 757	87
181 519 342	328	181 685 156	346	181 689 555	347	185 582 012	104
181 519 343	328	181 685 157	346	181 689 556	347	185 582 013	104
181 519 345	328	181 689 301	347	185 514 032	86	185 582 014	104
181 519 346	328	181 689 303	347	185 514 033	86	185 582 015	104
181 519 351	328	181 689 304	347	185 514 034	86	185 582 016	104
181 519 352	328	181 689 307	347	185 514 035	86	185 582 017	104
181 519 353	328	181 689 308	347	185 514 036	86	185 582 112	105
181 519 355	328	181 689 309	347	185 514 037	86	185 582 113	105
181 519 356	328	181 689 312	347	185 514 052	86	185 582 114	105
181 519 501	327	181 689 313	347	185 514 053	86	185 582 115	105
181 519 503	327	181 689 314	347	185 514 054	86	185 582 116	105
181 519 504	327	181 689 315	347	185 514 055	86	185 582 117	105
181 519 507	327	181 689 318	347	185 514 056	86	185 582 512	106
181 519 508	327	181 689 319	347	185 514 057	86	185 582 513	106
181 519 509	327	181 689 320	347	185 514 132	84	185 582 514	106
181 519 512	327	181 689 321	347	185 514 133	84	185 582 515	106
181 519 513	327	181 689 322	347	185 514 134	84	185 582 516	106
181 519 514	327	181 689 325	347	185 514 135	84	185 582 517	106
181 519 515	327	181 689 326	347	185 514 136	84	185 586 012	107
181 519 518	327	181 689 327	347	185 514 137	84	185 586 013	107
181 519 519	327	181 689 328	347	185 514 152	84	185 586 014	107
181 519 520	327	181 689 329	347	185 514 153	84	185 586 015	107
181 519 521	327	181 689 330	347	185 514 154	84	185 586 016	107
181 519 522	328	181 689 341	347	185 514 155	84	185 586 017	107
181 519 525	328	181 689 342	347	185 514 156	84	185 586 112	107
181 519 526	328	181 689 343	347	185 514 157	84	185 586 113	107
181 519 527	328	181 689 345	347	185 515 032	86	185 586 114	107
181 519 528	328	181 689 346	347	185 515 033	86	185 586 115	107
181 519 529	328	181 689 351	347	185 515 034	86	185 586 116	107
181 519 530	328	181 689 352	347	185 515 035	86	185 586 117	107
181 519 541	328	181 689 353	347	185 515 036	86	185 586 512	108
181 519 542	328	181 689 355	347	185 515 037	86	185 586 513	108
181 519 543	328	181 689 356	347	185 515 132	85	185 586 514	108
181 519 545	328	181 689 501	347	185 515 133	85	185 586 515	108
181 519 546	328	181 689 503	347	185 515 134	85	185 586 516	108
181 519 551	328	181 689 504	347	185 515 135	85	185 586 517	108
181 519 552	328	181 689 507	347	185 515 136	85	185 604 032	83
181 519 553	328	181 689 508	347	185 515 137	85	185 604 034	83
181 519 555	328	181 689 509	347	185 517 132	87	185 604 035	83
181 519 556	328	181 689 512	347	185 517 133	87	185 604 062	83
181 684 132	345	181 689 513	347	185 517 134	87	185 604 064	83
181 684 133	345	181 689 514	347	185 517 135	87	185 604 065	83
181 684 134	345	181 689 515	347	185 517 136	87	185 604 132	83

# Index

Code	Page	Code	Page	Code	Page	Code	Page
185 604 134	83	185 627 135	245	185 645 137	260	185 655 053	251
185 604 135	83	185 627 136	245	185 645 152	260	185 655 054	251
185 604 162	83	185 627 137	245	185 645 153	260	185 655 055	251
185 604 164	83	185 627 152	245	185 645 154	260	185 655 056	251
185 604 165	83	185 627 153	245	185 645 155	260	185 655 057	251
185 605 132	84	185 627 154	245	185 645 156	260	185 655 132	250
185 605 134	84	185 627 155	245	185 645 157	260	185 655 133	250
185 605 135	84	185 627 156	245	185 647 132	247	185 655 134	250
185 605 162	84	185 627 157	245	185 647 133	247	185 655 135	250
185 605 164	84	185 627 732	244	185 647 134	247	185 655 136	250
185 605 165	84	185 627 733	244	185 647 135	247	185 655 137	250
185 624 032	242	185 627 734	244	185 647 136	247	185 655 152	250
185 624 033	242	185 627 735	244	185 647 137	247	185 655 153	250
185 624 034	242	185 627 736	244	185 647 152	247	185 655 154	250
185 624 035	242	185 627 737	244	185 647 153	247	185 655 155	250
185 624 036	242	185 627 752	244	185 647 154	247	185 655 156	250
185 624 037	242	185 627 753	244	185 647 155	247	185 655 157	250
185 624 052	242	185 627 754	244	185 647 156	247	185 657 132	249
185 624 053	242	185 627 755	244	185 647 157	247	185 657 133	249
185 624 054	242	185 627 756	244	185 647 732	246	185 657 134	249
185 624 055	242	185 627 757	244	185 647 733	246	185 657 135	249
185 624 056	242	185 644 032	262	185 647 734	246	185 657 136	249
185 624 057	242	185 644 033	262	185 647 735	246	185 657 137	249
185 624 132	243	185 644 034	262	185 647 736	246	185 657 152	249
185 624 133	243	185 644 035	262	185 647 737	246	185 657 153	249
185 624 134	243	185 644 036	262	185 647 752	246	185 657 154	249
185 624 135	243	185 644 037	262	185 647 753	246	185 657 155	249
185 624 136	243	185 644 052	262	185 647 754	246	185 657 156	249
185 624 137	243	185 644 053	262	185 647 755	246	185 657 157	249
185 624 152	243	185 644 054	262	185 647 756	246	185 657 732	248
185 624 153	243	185 644 055	262	185 647 757	246	185 657 733	248
185 624 154	243	185 644 056	262	185 654 032	259	185 657 734	248
185 624 155	243	185 644 057	262	185 654 033	259	185 657 735	248
185 624 156	243	185 644 132	261	185 654 034	259	185 657 736	248
185 624 157	243	185 644 133	261	185 654 035	259	185 657 737	248
185 625 032	264	185 644 134	261	185 654 036	259	185 657 752	248
185 625 033	264	185 644 135	261	185 654 037	259	185 657 753	248
185 625 034	264	185 644 136	261	185 654 052	259	185 657 754	248
185 625 035	264	185 644 137	261	185 654 053	259	185 657 755	248
185 625 036	264	185 644 152	261	185 654 054	259	185 657 756	248
185 625 037	264	185 644 153	261	185 654 055	259	185 657 757	248
185 625 052	264	185 644 154	261	185 654 056	259	185 684 032	257
185 625 053	264	185 644 155	261	185 654 057	259	185 684 033	257
185 625 054	264	185 644 156	261	185 654 132	258	185 684 034	257
185 625 055	264	185 644 157	261	185 654 133	258	185 684 035	257
185 625 056	264	185 645 032	261	185 654 134	258	185 684 036	257
185 625 057	264	185 645 033	261	185 654 135	258	185 684 037	257
185 625 132	263	185 645 034	261	185 654 136	258	185 684 052	257
185 625 133	263	185 645 035	261	185 654 137	258	185 684 053	257
185 625 134	263	185 645 036	261	185 654 152	258	185 684 054	257
185 625 135	263	185 645 037	261	185 654 153	258	185 684 055	257
185 625 136	263	185 645 052	261	185 654 154	258	185 684 056	257
185 625 137	263	185 645 053	261	185 654 155	258	185 684 057	257
185 625 152	263	185 645 054	261	185 654 156	258	185 684 132	256
185 625 153	263	185 645 055	261	185 654 157	258	185 684 133	256
185 625 154	263	185 645 056	261	185 655 032	251	185 684 134	256
185 625 155	263	185 645 057	261	185 655 033	251	185 684 135	256
185 625 156	263	185 645 132	260	185 655 034	251	185 684 136	256
185 625 157	263	185 645 133	260	185 655 035	251	185 684 137	256
185 627 132	245	185 645 134	260	185 655 036	251	185 684 152	256
185 627 133	245	185 645 135	260	185 655 037	251	185 684 153	256
185 627 134	245	185 645 136	260	185 655 052	251	185 684 154	256

# Index

Code	Page	Code	Page	Code	Page	Code	Page
185 684 155	256	198 806 467	127	199 041 234	127	199 145 565	230
185 684 156	256	198 806 468	127	199 041 235	127	199 145 566	230
185 684 157	256	198 806 469	127	199 041 236	127	199 145 567	230
185 685 032	255	198 806 470	127	199 041 237	127	199 145 568	230
185 685 033	255	198 806 471	127	199 041 649	109	199 146 582	231
185 685 034	255	198 807 202	355	199 041 669	108	199 146 583	231
185 685 035	255	198 807 203	355	199 041 689	108	199 146 584	231
185 685 036	255	198 807 204	355	199 107 423	169	199 146 585	231
185 685 037	255	198 807 205	355	199 107 424	169	199 146 586	231
185 685 052	255	198 807 206	355	199 107 425	169	199 146 587	231
185 685 053	255	198 807 207	355	199 107 426	169	199 146 588	231
185 685 054	255	198 807 208	355	199 107 427	169	199 146 589	231
185 685 055	255	198 807 209	355	199 107 428	169	199 146 590	231
185 685 056	255	198 807 210	355	199 107 433	174	199 147 582	232
185 685 057	255	199 025 327	265	199 107 434	174	199 147 583	232
185 685 132	254	199 025 329	265	199 107 435	174	199 147 584	232
185 685 133	254	199 025 337	268	199 107 436	174	199 147 585	232
185 685 134	254	199 025 339	268	199 107 437	174	199 147 586	232
185 685 135	254	199 025 347	270	199 107 438	174	199 147 587	232
185 685 136	254	199 025 349	270	199 107 802	173	199 147 588	232
185 685 137	254	199 025 357	266	199 107 803	173	199 147 589	232
185 685 152	254	199 025 358	265, 266	199 107 804	173	199 147 590	232
185 685 153	254	199 025 359	266	199 107 805	173	199 165 002	271
185 685 154	254	199 025 367	267	199 107 806	173	199 165 003	271
185 685 155	254	199 025 368	267, 268	199 107 807	173	199 165 004	271
185 685 156	254	199 025 369	267	199 107 808	173	199 165 005	271
185 685 157	254	199 025 370	267, 268	199 107 812	168	199 165 006	271
185 687 132	253	199 025 377	269	199 107 813	168	199 165 007	271
185 687 133	253	199 025 378	269, 270	199 107 814	168	199 165 012	271
185 687 134	253	199 025 379	269	199 107 815	168	199 165 013	271
185 687 135	253	199 025 380	269, 270	199 107 816	168	199 165 014	271
185 687 136	253	199 025 387	350	199 107 817	168	199 165 015	271
185 687 137	253	199 025 389	350	199 107 818	168	199 165 016	271
185 687 152	253	199 025 397	352	199 107 822	170	199 165 017	271
185 687 153	253	199 025 399	352	199 107 823	170	199 165 022	273
185 687 154	253	199 025 407	354	199 107 824	170	199 165 023	273
185 687 155	253	199 025 409	354	199 107 825	170	199 165 024	273
185 687 156	253	199 025 447	349	199 107 826	170	199 165 025	273
185 687 157	253	199 025 448	349, 350	199 107 827	170	199 165 026	273
185 687 732	252	199 025 449	349	199 107 828	170	199 165 027	273
185 687 733	252	199 025 457	351	199 107 832	175	199 165 032	272
185 687 734	252	199 025 458	351, 352	199 107 833	175	199 165 033	272
185 687 735	252	199 025 459	351	199 107 834	175	199 165 034	272
185 687 736	252	199 025 460	351, 352	199 107 835	175	199 165 035	272
185 687 737	252	199 025 467	353	199 107 836	175	199 165 036	272
185 687 752	252	199 025 468	353, 354	199 107 837	175	199 165 037	272
185 687 753	252	199 025 469	353	199 107 838	175	199 165 042	272
185 687 754	252	199 025 470	353, 354	199 107 843	172	199 165 043	272
185 687 755	252	199 041 010	126	199 107 844	172	199 165 044	272
185 687 756	252	199 041 011	126	199 107 845	172	199 165 045	272
185 687 757	252	199 041 138	126	199 107 846	172	199 165 046	272
193 530 001	279	199 041 139	126	199 107 847	172	199 165 047	272
193 530 010	279	199 041 140	126	199 107 848	172	199 165 072	273
198 803 905	127	199 041 141	126	199 107 853	171	199 165 073	273
198 803 906	127	199 041 142	126	199 107 854	171	199 165 074	273
198 803 907	127	199 041 143	126	199 107 855	171	199 165 075	273
198 803 908	127	199 041 144	126	199 107 856	171	199 165 076	273
198 803 909	127	199 041 145	126	199 107 857	171	199 165 077	273
198 803 910	127	199 041 146	126	199 107 858	171	199 165 402	271
198 803 911	127	199 041 231	127	199 145 562	230	199 165 403	271
198 803 912	127	199 041 232	127	199 145 563	230	199 165 404	271
198 806 466	127	199 041 233	127	199 145 564	230	199 165 405	271

# Index

Code	Page	Code	Page	Code	Page	Code	Page
199 165 406	271	199 181 012	176	199 232 067	197	199 232 192	195
199 165 407	271	199 181 013	176	199 232 068	197	199 232 193	195
199 165 412	271	199 181 014	176	199 232 072	225	199 232 194	195
199 165 413	271	199 181 015	176	199 232 073	225	199 232 195	195
199 165 414	271	199 181 016	176	199 232 074	225	199 232 196	195
199 165 415	271	199 181 017	176	199 232 075	225	199 232 197	195
199 165 416	271	199 181 018	176	199 232 076	225	199 232 198	195
199 165 417	271	199 181 019	176	199 232 077	225	199 232 212	190
199 165 422	273	199 181 020	176	199 232 078	225	199 232 213	190
199 165 423	273	199 181 021	176	199 232 083	191	199 232 214	190
199 165 424	273	199 181 113	177	199 232 084	191	199 232 215	190
199 165 425	273	199 181 114	177	199 232 085	191	199 232 216	190
199 165 426	273	199 181 115	177	199 232 086	191	199 232 217	190
199 165 427	273	199 181 116	177	199 232 087	191	199 232 218	190
199 165 432	272	199 181 117	177	199 232 088	191	199 232 219	190
199 165 433	272	199 181 118	177	199 232 092	222	199 232 220	190
199 165 434	272	199 181 119	177	199 232 093	222	199 232 221	190
199 165 435	272	199 181 120	177	199 232 094	222	199 232 232	189
199 165 436	272	199 181 121	177	199 232 095	222	199 232 233	189
199 165 437	272	199 232 003	227	199 232 096	222	199 232 234	189
199 165 442	272	199 232 004	227	199 232 097	222	199 232 235	189
199 165 443	272	199 232 005	227	199 232 098	222	199 232 236	189
199 165 444	272	199 232 006	227	199 232 103	185	199 232 237	189
199 165 445	272	199 232 007	227	199 232 104	185	199 232 238	189
199 165 446	272	199 232 008	227	199 232 105	185	199 232 512	179
199 165 447	272	199 232 012	178	199 232 106	185	199 232 513	179
199 165 452	273	199 232 013	178	199 232 107	185	199 232 514	179
199 165 453	273	199 232 014	178	199 232 108	185	199 232 515	179
199 165 454	273	199 232 015	178	199 232 112	205	199 232 516	179
199 165 455	273	199 232 016	178	199 232 113	205	199 232 517	179
199 165 456	273	199 232 017	178	199 232 114	205	199 232 518	179
199 165 457	273	199 232 018	178	199 232 115	205	199 232 532	180
199 166 000	274	199 232 023	223	199 232 116	205	199 232 533	180
199 166 001	274	199 232 024	223	199 232 117	205	199 232 534	180
199 166 002	274	199 232 025	223	199 232 118	205	199 232 535	180
199 166 005	274	199 232 026	223	199 232 132	202	199 232 536	180
199 166 006	274	199 232 027	223	199 232 133	202	199 232 537	180
199 166 007	274	199 232 028	223	199 232 134	202	199 232 538	180
199 166 010	274	199 232 032	229	199 232 135	202	199 232 552	181
199 166 011	274, 274	199 232 033	229	199 232 136	202	199 232 553	181
199 166 012	274	199 232 034	229	199 232 137	202	199 232 554	181
199 166 015	274	199 232 035	229	199 232 138	202	199 232 555	181
199 166 016	274, 274	199 232 036	229	199 232 139	202	199 232 556	181
199 166 017	274	199 232 037	229	199 232 140	202	199 232 557	181
199 166 150	275	199 232 038	229	199 232 141	202	199 232 558	181
199 166 151	275	199 232 043	203	199 232 152	200	199 232 572	182
199 166 155	275	199 232 044	203	199 232 153	200	199 232 573	182
199 166 156	275	199 232 045	203	199 232 154	200	199 232 574	182
199 166 160	275	199 232 046	203	199 232 155	200	199 232 575	182
199 166 161	275	199 232 047	203	199 232 156	200	199 232 576	182
199 166 165	275	199 232 048	203	199 232 157	200	199 232 577	182
199 166 166	275	199 232 052	226	199 232 158	200	199 232 578	182
199 166 201	274	199 232 053	226	199 232 172	196	199 232 592	183
199 166 206	274	199 232 054	226	199 232 173	196	199 232 593	183
199 166 505	274	199 232 055	226	199 232 174	196	199 232 594	183
199 166 506	274	199 232 056	226	199 232 175	196	199 232 595	183
199 166 507	274	199 232 057	226	199 232 176	196	199 232 596	183
199 166 515	274	199 232 058	226	199 232 177	196	199 232 597	183
199 166 516	274	199 232 063	197	199 232 178	196	199 232 598	183
199 166 517	274	199 232 064	197	199 232 179	196	199 232 612	184
199 166 656	275	199 232 065	197	199 232 180	196	199 232 613	184
199 166 666	275	199 232 066	197	199 232 181	196	199 232 614	184

# Index

Code	Page	Code	Page	Code	Page	Code	Page
199 232 615	184	199 232 970	192	199 243 465	236	199 287 036	217
199 232 616	184	199 232 971	192	199 243 466	236	199 287 037	217
199 232 617	184	199 232 979	187	199 243 467	236	199 287 038	217
199 232 618	184	199 232 980	187	199 243 468	236	199 287 053	207
199 232 713	228	199 232 981	187	199 243 469	236	199 287 054	207
199 232 714	228	199 240 462	233	199 243 470	236	199 287 055	207
199 232 715	228	199 240 463	233	199 243 482	237	199 287 056	207
199 232 716	228	199 240 464	233	199 243 483	237	199 287 057	207
199 232 717	228	199 240 465	233	199 243 484	237	199 287 058	207
199 232 718	228	199 240 466	233	199 243 485	237	199 287 073	212
199 232 753	224	199 240 467	233	199 243 486	237	199 287 074	212
199 232 754	224	199 240 468	233	199 243 487	237	199 287 075	212
199 232 755	224	199 240 469	233	199 243 488	237	199 287 076	212
199 232 756	224	199 240 470	233	199 243 489	237	199 287 077	212
199 232 757	224	199 240 482	234	199 243 490	237	199 287 078	212
199 232 758	224	199 240 483	234	199 243 502	238	199 287 092	221
199 232 793	204	199 240 484	234	199 243 503	238	199 287 093	221
199 232 794	204	199 240 485	234	199 243 504	238	199 287 094	221
199 232 795	204	199 240 486	234	199 243 505	238	199 287 095	221
199 232 796	204	199 240 487	234	199 243 506	238	199 287 096	221
199 232 797	204	199 240 488	234	199 243 507	238	199 287 097	221
199 232 798	204	199 240 489	234	199 243 508	238	199 287 098	221
199 232 833	201	199 240 490	234	199 243 509	238	199 287 112	218
199 232 834	201	199 240 502	235	199 243 510	238	199 287 113	218
199 232 835	201	199 240 503	235	199 244 462	239	199 287 114	218
199 232 836	201	199 240 504	235	199 244 463	239	199 287 115	218
199 232 837	201	199 240 505	235	199 244 464	239	199 287 116	218
199 232 838	201	199 240 506	235	199 244 465	239	199 287 117	218
199 232 839	201	199 240 507	235	199 244 466	239	199 287 118	218
199 232 840	201	199 240 508	235	199 244 467	239	199 287 132	210
199 232 841	201	199 240 509	235	199 244 468	239	199 287 133	210
199 232 873	194	199 240 510	235	199 244 469	239	199 287 134	210
199 232 874	194	199 240 522	233	199 244 470	239	199 287 135	210
199 232 875	194	199 240 523	233	199 244 482	240	199 287 136	210
199 232 876	194	199 240 524	233	199 244 483	240	199 287 137	210
199 232 877	194	199 240 525	233	199 244 484	240	199 287 138	210
199 232 878	194	199 240 526	233	199 244 485	240	199 287 152	215
199 232 879	194	199 240 527	233	199 244 486	240	199 287 153	215
199 232 880	194	199 240 528	233	199 244 487	240	199 287 154	215
199 232 881	194	199 240 529	233	199 244 488	240	199 287 155	215
199 232 913	188	199 240 530	233	199 244 489	240	199 287 156	215
199 232 914	188	199 240 542	234	199 244 490	240	199 287 157	215
199 232 915	188	199 240 543	234	199 244 502	241	199 287 158	215
199 232 916	188	199 240 544	234	199 244 503	241	199 287 173	209
199 232 917	188	199 240 545	234	199 244 504	241	199 287 174	209
199 232 918	188	199 240 546	234	199 244 505	241	199 287 175	209
199 232 919	188	199 240 547	234	199 244 506	241	199 287 176	209
199 232 920	188	199 240 548	234	199 244 507	241	199 287 177	209
199 232 921	188	199 240 549	234	199 244 508	241	199 287 178	209
199 232 929	199	199 240 550	234	199 244 509	241	199 287 193	214
199 232 930	199	199 240 562	235	199 244 510	241	199 287 194	214
199 232 931	199	199 240 563	235	199 287 012	220	199 287 195	214
199 232 939	193	199 240 564	235	199 287 013	220	199 287 196	214
199 232 940	193	199 240 565	235	199 287 014	220	199 287 197	214
199 232 941	193	199 240 566	235	199 287 015	220	199 287 198	214
199 232 949	186	199 240 567	235	199 287 016	220	199 287 212	219
199 232 950	186	199 240 568	235	199 287 017	220	199 287 213	219
199 232 951	186	199 240 569	235	199 287 018	220	199 287 214	219
199 232 959	198	199 240 570	235	199 287 032	217	199 287 215	219
199 232 960	198	199 243 462	236	199 287 033	217	199 287 216	219
199 232 961	198	199 243 463	236	199 287 034	217	199 287 217	219
199 232 969	192	199 243 464	236	199 287 035	217	199 287 218	219

# Index

Code	Page	Code	Page	Code	Page	Code	Page
199 287 232	216	724 690 105	48	727 701 212	40, 314	735 018 706	25
199 287 233	216	724 690 106	48	727 701 313	40, 314	735 018 707	25
199 287 234	216	724 690 107	48	727 701 314	40, 314	735 018 708	25
199 287 235	216	724 690 108	48	727 701 321	40, 314	735 018 709	25
199 287 236	216	724 690 109	48	727 701 322	41, 314	735 018 710	25
199 287 237	216	724 690 110	48	727 701 323	41, 314	735 018 711	25
199 287 238	216	724 690 111	48	727 701 324	41, 314	735 018 712	25
199 287 242	206	724 700 426	314	727 701 325	41, 314	735 018 713	25
199 287 243	206	724 705 026	40, 313,	727 701 406	39, 52, 312	735 018 714	25
199 287 244	206		314	727 701 407	39, 52, 312	735 018 716	25
199 287 245	206	727 700 206	40, 53, 313	727 701 408	39, 52, 312	735 018 717	25
199 287 246	206	727 700 207	40, 53, 313	727 701 409	39, 52, 312	735 018 719	25
199 287 247	206	727 700 208	40, 53, 313	727 701 410	39, 52, 312	735 018 720	25
199 287 248	206	727 700 209	40, 53, 313	727 701 411	39, 52, 312	735 018 721	25
199 287 252	211	727 700 210	40, 53, 313	727 701 412	39, 312	735 018 722	25
199 287 253	211	727 700 211	40, 53, 313	727 701 513	39, 312	735 018 723	25
199 287 254	211	727 700 212	40, 313	727 701 514	39, 312	735 018 731	285
199 287 255	211	727 700 313	40, 313	727 701 521	39, 313	735 018 732	285
199 287 256	211	727 700 314	40, 313	727 701 522	39, 313	735 018 733	285
199 287 257	211	727 700 315	40, 313	727 701 523	39, 313	735 018 734	285
199 287 258	211	727 700 406	39, 52, 312	727 705 006	53	735 018 735	285
199 287 262	208	727 700 407	39, 52, 312	727 705 007	53	735 018 736	285
199 287 263	208	727 700 408	39, 52, 312	727 705 008	53	735 018 737	285
199 287 264	208	727 700 409	39, 52, 312	727 705 009	54	735 018 738	285
199 287 265	208	727 700 410	39, 52, 312	727 705 010	54	735 018 739	285
199 287 266	208	727 700 411	39, 52, 312	727 705 011	54	735 018 741	285
199 287 267	208	727 700 412	39, 312	727 705 012	54	735 018 742	285
199 287 268	208	727 700 513	39, 312	731 400 667	42, 315	735 018 744	285
199 287 272	213	727 700 514	39, 312	731 400 670	42, 315	735 018 745	285
199 287 273	213	727 700 515	39, 312	731 400 671	42, 315	735 018 746	285
199 287 274	213	727 700 516	39, 312	731 400 672	42, 315	735 018 747	285
199 287 275	213	727 700 517	39, 39,	731 400 753	42, 55, 315	735 018 748	285
199 287 276	213		312, 312	731 400 755	42, 55, 315	735 100 105	43
199 287 277	213	727 700 518	39, 312	731 400 757	42, 55, 315	735 100 106	43
199 287 278	213	727 700 519	39, 39,	731 400 759	42, 55, 315	735 100 107	43
700 245 481	35		312, 312	731 400 760	42, 55, 315	735 100 108	43
700 245 482	35	727 700 520	39, 39,	731 400 761	42, 315	735 100 109	43
700 245 483	35		312, 313	731 400 763	42, 315	735 100 110	43
700 245 484	35	727 700 521	39, 312	731 400 764	42, 315	735 100 111	43
700 245 485	35	727 700 522	39, 312	735 018 513	25	735 108 606	26
700 245 486	35	727 700 523	39, 312	735 018 514	25	735 108 607	26
724 600 655	34, 47	727 700 524	39, 312	735 018 515	25	735 108 608	26
724 600 656	34, 47	727 700 525	39, 312	735 018 516	25	735 108 609	26
724 600 657	34, 47	727 700 716	40, 313	735 018 517	25	735 108 610	26
724 600 658	34, 48	727 700 717	40, 40,	735 018 519	25	735 108 611	26
724 600 659	34, 48		313, 314	735 018 520	25	735 108 631	285
724 600 660	34, 48	727 700 718	40, 313	735 018 521	25	735 108 632	285
724 600 661	34, 48	727 700 719	40, 40,	735 018 522	25	735 108 633	285
724 600 705	34, 47		313, 314	735 018 523	25	735 108 634	285
724 600 706	34, 47	727 700 720	40, 40,	735 018 538	286	735 108 635	285
724 600 707	34, 47		313, 314	735 018 539	286	735 108 636	285
724 600 708	34, 47	727 700 721	40, 313	735 018 540	286	735 150 105	44
724 600 709	34, 47	727 700 722	40, 313	735 018 541	286	735 150 106	44
724 600 710	34, 47	727 700 723	40, 313	735 018 542	286	735 150 107	44
724 600 711	34, 47	727 700 724	40, 313	735 018 544	286	735 150 108	44
724 605 505	34, 48	727 700 725	40, 313	735 018 545	286	735 150 109	44
724 605 506	34, 48	727 701 206	40, 53, 314	735 018 546	286	735 150 110	44
724 605 507	34, 48	727 701 207	40, 53, 314	735 018 547	286	735 150 111	44
724 605 508	34, 48	727 701 208	40, 53, 314	735 018 548	286	735 158 513	27
724 605 509	34, 48	727 701 209	40, 53, 314	735 018 549	286	735 158 514	27
724 605 510	34, 48	727 701 210	40, 53, 314	735 018 550	286	735 158 515	27
724 605 511	34, 48	727 701 211	40, 53, 314	735 018 551	286	735 158 516	27

# Index

Code	Page	Code	Page	Code	Page	Code	Page
735 158 517	27	735 208 517	28	735 208 662	27	735 318 205	320
735 158 519	27	735 208 519	28	735 208 669	27	735 318 206	320
735 158 520	27	735 208 520	28	735 208 670	27	735 318 207	320
735 158 521	27	735 208 521	28	735 208 686	291	735 318 208	320
735 158 522	27	735 208 522	28	735 208 687	291	735 318 209	320
735 158 523	27	735 208 523	28	735 208 694	291	735 318 303	320
735 158 538	288	735 208 538	289	735 208 695	291	735 318 304	320
735 158 539	288	735 208 539	289	735 208 956	291	735 318 305	320
735 158 540	288	735 208 540	289	735 208 957	291	735 318 306	320
735 158 541	288	735 208 541	289	735 208 958	291	735 318 307	320
735 158 542	288	735 208 542	289	735 208 959	291	735 318 308	320
735 158 544	288	735 208 544	289	735 208 961	291	735 318 309	320
735 158 545	288	735 208 545	289	735 208 962	291	735 318 505	320
735 158 546	288	735 208 546	289	735 208 963	291	735 318 506	320
735 158 547	288	735 208 547	289	735 208 964	291	735 318 507	320
735 158 548	288	735 208 548	289	735 208 965	291	735 318 508	320
735 158 549	288	735 208 549	290	735 208 967	291	735 318 509	320
735 158 550	288	735 208 550	290	735 208 968	291	735 318 606	320
735 158 551	288	735 208 551	290	735 208 969	291	735 318 607	320
735 158 606	26	735 208 561	28	735 208 970	291	735 318 608	320
735 158 607	26	735 208 562	28	735 208 971	291	735 318 609	320
735 158 608	26	735 208 568	28	735 208 972	291	735 510 105	46
735 158 609	26	735 208 569	28	735 208 974	291	735 510 106	46
735 158 610	26	735 208 570	28	735 208 975	291	735 510 107	46
735 158 611	26	735 208 586	291	735 208 976	291	735 510 108	46
735 158 612	26	735 208 587	291	735 208 977	291	735 510 109	46
735 158 613	26	735 208 593	291	735 208 978	291	735 510 110	46
735 158 614	26	735 208 594	291	735 208 979	291	735 510 111	46
735 158 616	26	735 208 595	291	735 208 980	291	735 528 606	32
735 158 617	26	735 208 606	27	735 208 981	291	735 528 607	32
735 158 619	26	735 208 607	27	735 209 815	292	735 528 608	32
735 158 620	26	735 208 608	27	735 209 818	292	735 528 609	32
735 158 621	26	735 208 609	27	735 209 827	292	735 528 610	32
735 158 622	26	735 208 610	27	735 209 830	292	735 528 611	32
735 158 623	26	735 208 611	27	735 209 840	292	735 528 612	32
735 158 631	287	735 208 612	27	735 209 843	292	735 528 613	32
735 158 632	287	735 208 613	27	735 310 036	56	735 528 614	32
735 158 633	287	735 208 614	27	735 310 037	56	735 528 626	299
735 158 634	287	735 208 616	27	735 310 038	56	735 528 627	299
735 158 635	287	735 208 617	27	735 310 039	56	735 528 628	299
735 158 636	287	735 208 619	27	735 310 040	56	735 528 629	299
735 158 637	287	735 208 620	27	735 310 041	56	735 528 630	299
735 158 638	287	735 208 621	27	735 311 042	56	735 528 631	299
735 158 639	287	735 208 622	27	735 311 043	56	735 528 637	299
735 158 641	287	735 208 623	27	735 311 044	56	735 528 638	299
735 158 642	287	735 208 631	289	735 311 045	56	735 528 639	299
735 158 644	287	735 208 632	289	735 311 046	56	735 598 006	316
735 158 645	287	735 208 633	289	735 311 047	56	735 598 008	316
735 158 646	287	735 208 634	289	735 311 049	56	735 598 009	316
735 158 647	287	735 208 635	289	735 311 050	56	735 598 010	316
735 158 648	287	735 208 636	289	735 314 000	57	735 598 014	316
735 200 105	43	735 208 637	289	735 314 001	57	735 598 016	316
735 200 106	43	735 208 638	289	735 314 002	57	735 598 018	316
735 200 107	43	735 208 639	289	735 318 036	57	735 598 056	319
735 200 108	43	735 208 641	289	735 318 037	57	735 598 057	319
735 200 109	43	735 208 642	289	735 318 038	57	735 598 059	319
735 200 110	43	735 208 644	289	735 318 039	57	735 598 062	319
735 200 111	43	735 208 645	289	735 318 040	57	735 598 065	319
735 208 513	28	735 208 646	289	735 318 041	57	735 598 067	319
735 208 514	28	735 208 647	289	735 318 101	320	735 598 157	319
735 208 515	28	735 208 648	289	735 318 202	320	735 598 159	319
735 208 516	28	735 208 661	27	735 318 204	320	735 598 163	319

# Index

Code	Page	Code	Page	Code	Page	Code	Page
735 598 165	319	735 608 609	32	735 790 207	50	735 798 873	38
735 598 167	319	735 608 610	32	735 790 208	50	735 798 882	308
735 598 169	319	735 608 611	32	735 790 209	50	735 798 883	308
735 598 207	318	735 608 612	32	735 790 210	50	735 798 884	308
735 598 209	318	735 608 613	32	735 790 211	50	735 798 885	308
735 598 213	318	735 608 614	32	735 790 257	51	735 798 886	308
735 598 215	318	735 608 626	299	735 790 258	51	735 798 888	309
735 598 217	318	735 608 627	299	735 790 259	51	735 798 889	309
735 598 219	318	735 608 628	299	735 790 260	51	735 798 891	309
735 598 259	318	735 608 629	299	735 798 549	309	735 798 892	309, 309
735 598 262	318	735 608 630	299	735 798 550	309	735 798 894	309
735 598 265	318	735 608 631	299	735 798 551	309	735 798 895	309, 309
735 598 267	318	735 608 637	299	735 798 565	38	735 800 106	51
735 598 269	318	735 608 638	299	735 798 590	309	735 800 107	51
735 598 309	318	735 608 639	299	735 798 596	309, 309	735 800 108	51
735 598 312	318	735 640 105	47	735 798 597	309, 309	735 800 109	51
735 598 315	318	735 640 106	47	735 798 598	309, 309	735 800 110	51
735 598 317	318	735 640 107	47	735 798 806	36	735 800 111	51
735 598 319	318	735 640 108	47	735 798 807	36	735 805 926	310
735 598 357	317	735 640 109	47	735 798 808	36	735 805 927	310
735 598 359	317	735 640 110	47	735 798 809	36	735 805 928	310
735 598 362	317	735 640 111	47	735 798 810	36	735 805 929	310
735 598 365	317	735 648 606	32	735 798 811	36	735 805 930	310
735 598 367	317	735 648 607	32	735 798 812	36	735 805 931	310
735 598 369	317	735 648 608	32	735 798 813	36	735 805 932	310
735 598 406	317	735 648 609	32	735 798 814	36	735 805 933	310
735 598 408	317	735 648 610	32	735 798 816	36	735 805 934	310
735 598 410	317	735 648 611	32	735 798 817	36	735 805 936	311
735 598 414	317	735 648 612	32	735 798 819	36	735 805 937	311
735 598 416	317	735 648 613	32	735 798 820	36	735 805 940	311
735 598 418	317	735 648 614	32	735 798 821	36	735 810 106	36, 51
735 598 430	307	735 648 626	299	735 798 822	36	735 810 107	36, 51
735 598 431	307	735 648 627	299	735 798 823	36	735 810 108	36, 51
735 598 432	307	735 648 628	299	735 798 823	36	735 810 109	36, 51
735 598 433	307	735 648 629	299	735 798 831	308	735 810 110	36, 51
735 598 435	307	735 648 630	299	735 798 832	308	735 810 111	36, 51
735 598 436	307	735 648 631	299	735 798 833	308	735 908 500	294
735 598 437	307	735 648 637	299	735 798 834	308	735 908 501	294
735 598 438	307	735 648 638	299	735 798 835	308	735 908 502	294
735 598 439	307	735 648 639	299	735 798 836	308	735 908 503	294
735 598 442	307	735 690 405	33, 46	735 798 837	308	735 908 504	294
735 598 443	307	735 690 406	33, 46	735 798 838	308	735 908 505	294
735 598 444	307	735 690 407	33, 46	735 798 839	308	735 908 506	294
735 598 506	317	735 690 408	33, 46	735 798 841	308, 310	735 908 506	294
735 598 508	317	735 690 409	33, 46	735 798 842	308, 310	735 908 507	295
735 598 510	317	735 690 410	33, 46	735 798 844	308	735 908 508	295
735 598 806	316	735 690 411	33, 46	735 798 845	308, 310	735 908 511	294
735 598 807	316	735 690 422	33, 46	735 798 846	308, 310	735 908 513	294
735 598 808	316	735 690 423	33, 46	735 798 847	308, 310	735 908 515	294
735 598 809	316	735 730 106	54	735 798 848	308, 310	735 908 521	294
735 598 810	316	735 730 107	54	735 798 857	37	735 908 522	295
735 598 811	316	735 730 108	54	735 798 858	37	735 908 524	295
735 600 105	46	735 730 109	54	735 798 859	37	735 908 525	295
735 600 106	46	735 730 110	54	735 798 860	37	735 908 526	294
735 600 107	46	735 730 111	54	735 798 861	37	735 908 527	295
735 600 108	46	735 740 106	54	735 798 863	38	735 908 528	295
735 600 109	46	735 740 107	54	735 798 864	38	735 908 530	295
735 600 110	46	735 740 108	54	735 798 866	38	735 908 531	295
735 600 111	46	735 740 109	54	735 798 867	38	735 908 532	295
735 608 606	32	735 740 110	54	735 798 869	38	735 908 533	295
735 608 607	32	735 740 111	54	735 798 870	38	735 908 534	295
735 608 608	32	735 790 206	50	735 798 871	38	735 908 535	295
				735 798 872	38	735 908 536	295



# Index

Code	Page	Code	Page	Code	Page	Code	Page
735 908 537	295	735 908 652	28	735 909 364	297	735 910 561	30
735 908 538	295	735 908 653	28	735 909 365	297	735 910 585	30
735 908 539	295	735 908 654	28	735 909 369	297	735 910 586	30
735 908 542	295	735 908 658	28	735 909 370	297	735 910 587	30
735 908 544	295	735 908 659	28	735 909 371	297	735 910 588	30
735 908 545	295	735 908 660	28	735 909 372	297	735 910 589	30
735 908 547	295	735 908 664	28	735 909 377	297	735 910 590	30
735 908 548	295	735 908 665	28	735 909 378	297	735 910 591	30
735 908 550	295	735 908 666	28	735 909 379	297	735 910 706	305
735 908 551	29	735 908 670	28	735 909 380	297	735 910 707	305
735 908 553	29	735 908 671	28	735 909 396	297	735 910 708	305
735 908 555	29	735 908 676	29	735 909 397	297	735 910 709	305
735 908 561	29	735 908 677	28	735 909 398	297	735 910 710	305
735 908 566	29	735 908 678	28	735 909 399	297	735 910 711	305
735 908 580	29	735 908 685	29	735 909 768	297	735 910 785	306
735 908 584	29	735 908 688	29	735 909 775	297	735 910 786	306
735 908 585	29	735 908 690	29	735 909 776	297	735 910 787	306
735 908 588	29	735 908 692	29	735 909 783	297	735 910 788	306
735 908 590	29	735 908 695	29	735 909 784	297	735 910 789	306
735 908 592	29	735 908 696	29	735 909 785	297	735 910 790	306
735 908 595	29	735 908 697	29	735 909 802	297	735 910 791	306
735 908 596	29	735 909 104	296	735 909 803	297	735 914 205	49
735 908 597	29	735 909 105	296	735 909 804	297	735 914 206	49
735 908 600	293	735 909 106	296	735 909 805	297	735 914 207	49
735 908 601	293	735 909 107	296	735 910 105	43	735 914 208	50
735 908 602	293	735 909 108	296	735 910 106	43	735 914 209	50
735 908 603	293	735 909 109	296	735 910 107	43, 44	735 914 210	50
735 908 604	293	735 909 110	296	735 910 108	43, 44	735 914 211	50
735 908 605	293	735 909 111	296	735 910 109	43, 44	735 914 306	305
735 908 606	293	735 909 112	296	735 910 110	43, 45	735 914 307	305
735 908 607	293	735 909 113	296	735 910 111	43	735 914 308	305
735 908 608	293	735 909 114	296	735 910 206	49	735 914 309	305
735 908 609	293	735 909 115	296	735 910 207	49	735 914 310	305
735 908 610	293	735 909 116	296	735 910 208	49	735 914 311	305
735 908 611	293	735 909 117	296	735 910 209	49	735 914 505	49
735 908 612	293	735 909 118	296	735 910 210	49	735 914 506	49
735 908 613	293	735 909 119	296	735 910 211	49	735 914 507	49
735 908 614	293	735 909 120	296	735 910 334	44	735 914 508	49
735 908 615	293	735 909 121	296	735 910 337	44	735 914 509	49
735 908 616	293	735 909 122	296	735 910 342	44	735 914 510	49
735 908 617	293	735 909 123	296	735 910 347	44	735 914 511	49
735 908 618	293	735 909 124	296	735 910 348	44	735 914 555	30
735 908 619	293	735 909 125	296	735 910 353	44	735 914 556	30
735 908 621	293	735 909 126	296	735 910 354	44	735 914 557	30
735 908 622	293	735 909 127	296	735 910 355	44	735 914 558	30
735 908 623	293	735 909 128	296	735 910 359	45	735 914 559	30
735 908 624	293	735 909 129	296	735 910 360	45	735 914 560	30
735 908 625	293	735 909 130	296	735 910 361	45	735 914 561	30
735 908 626	293	735 909 131	296	735 910 362	44	735 914 585	31
735 908 627	293	735 909 132	296	735 910 505	48	735 914 586	31
735 908 628	294	735 909 133	296	735 910 506	48	735 914 587	31
735 908 629	294	735 909 134	296	735 910 507	48	735 914 588	31
735 908 630	294	735 909 135	296	735 910 508	49	735 914 589	31
735 908 631	294	735 909 136	296	735 910 509	49	735 914 590	31
735 908 632	294	735 909 195	296	735 910 510	49	735 914 591	31
735 908 633	294	735 909 205	296	735 910 511	49	735 914 785	306
735 908 637	28	735 909 356	297	735 910 555	30	735 914 786	306
735 908 641	28	735 909 357	297	735 910 556	30	735 914 787	306
735 908 642	28	735 909 358	297	735 910 557	30	735 914 788	306
735 908 646	28	735 909 359	297	735 910 558	30	735 914 789	306
735 908 647	28	735 909 362	297	735 910 559	30	735 914 790	306
735 908 648	28	735 909 363	297	735 910 560	30	735 914 791	306

# Index

Code	Page	Code	Page	Code	Page	Code	Page
735 918 565	302	735 968 309	29	748 440 709	41, 55	761 066 797	370
735 918 569	302	735 968 310	29	748 440 710	41, 55	761 066 799	370
735 918 619	302	735 968 311	29	748 440 711	41, 55	790 109 001	371
735 918 621	302	735 968 312	29	748 440 712	41	790 109 002	371
735 918 622	302	735 968 313	29	748 440 713	41	790 109 003	371
735 918 623	302	735 968 314	29	748 440 714	41	790 109 011	371
735 918 656	302	735 968 316	29	748 440 715	41	790 109 012	371
735 918 657	302	735 968 317	29	748 440 716	41	790 109 013	371
735 918 658	302	735 968 319	29	748 440 717	41	790 114 028	372
735 918 659	302	735 968 320	29	748 440 719	41	790 121 001	365
735 918 660	302	735 968 425	305	748 440 720	41	790 121 002	364
735 918 661	302	735 968 430	305	748 440 721	41	790 121 034	367
735 918 662	302	735 968 435	305	748 440 722	41	790 121 035	367
735 918 663	302	735 968 546	304	748 440 723	42	790 121 036	367
735 918 664	302	735 968 547	304	748 440 724	42	790 121 037	367
735 918 716	301	735 968 548	304	748 440 725	42	790 121 038	367
735 918 717	301	735 968 549	304	748 440 726	42	790 121 047	365, 366
735 918 720	301	735 968 550	304	749 410 001	55	790 121 048	365, 366
735 918 811	301	735 968 551	304	749 410 002	55	790 121 049	365, 366
735 918 812	301	735 968 606	31	749 410 003	55	790 121 052	366
735 918 813	301	735 968 607	31	749 410 005	35, 47	790 121 053	366
735 918 814	301	735 968 608	31	749 410 006	35, 47	790 121 055	366
735 918 816	301	735 968 609	31	749 410 007	35, 47, 55	790 121 061	366
735 918 817	301	735 968 610	31	749 410 008	35, 47	790 121 062	366
735 918 820	301	735 968 611	31	749 410 009	35, 47	790 121 063	366
735 918 849	302	735 968 625	304	749 410 010	35, 47	790 121 064	366
735 918 850	302	735 968 630	304	749 410 011	35, 47	790 121 065	366
735 918 851	302	735 968 635	304	749 410 012	55	790 121 066	366
735 938 737	298	735 968 640	304	749 410 013	35, 55	790 121 067	366
735 938 741	298	735 968 645	304	749 410 014	35	790 121 068	366
735 938 742	298	735 968 650	304	749 410 015	35	790 121 069	366
735 938 746	298	735 968 731	306	749 411 005	300	790 121 072	368
735 938 747	298	735 968 732	306	749 411 006	300	790 121 073	368
735 938 748	298	735 968 733	306	749 411 013	300	790 121 075	368
735 938 752	298	735 968 734	306	749 411 014	300	790 121 111	365
735 938 753	298	735 968 735	306	749 411 015	300	790 121 112	365
735 938 758	298	735 968 736	306	749 411 054	300	790 121 113	365
735 938 759	298	735 991 654	303	749 411 062	300	790 121 114	365
735 938 760	298	735 991 655	303	749 411 120	300	790 121 115	365
735 960 105	45	735 991 656	303	749 411 172	300	790 121 116	365
735 960 106	45	735 991 657	303	749 440 705	41	790 121 117	365
735 960 107	45	735 991 658	303	749 440 706	41, 55	790 121 118	365
735 960 108	45	735 991 659	303	749 440 707	41, 55	790 121 119	365
735 960 109	45	735 991 661	304	749 440 708	41, 55	790 121 151	367
735 960 110	45	735 991 662	304	749 440 709	41, 55	790 121 471	368
735 960 111	45	735 991 663	304	749 440 710	41, 55	790 122 041	365
735 960 405	50	743 400 806	316	749 440 711	41, 55	790 122 042	365
735 960 406	50	743 400 807	316	749 440 712	41	790 122 043	365
735 960 407	50	743 400 808	316	749 440 713	41	790 122 044	365
735 960 408	50	743 400 809	316	749 440 714	41	790 122 045	365
735 960 409	50	743 400 810	316	749 440 715	41	790 122 046	365
735 960 410	50	743 400 811	316	749 440 716	41	790 122 085	371
735 960 411	50	748 410 001	55	749 440 717	41	790 122 087	367
735 968 006	29	748 410 002	55	749 440 719	41	790 122 091	366
735 968 007	29	748 410 003	55	749 440 720	41	790 122 092	366
735 968 008	29	748 410 007	55	749 440 721	41	790 122 093	366
735 968 046	303	748 410 012	55	749 440 722	41	790 122 094	366
735 968 047	303	748 410 013	55	749 440 723	42	790 122 095	366
735 968 048	303	748 440 705	41	749 440 724	42	790 122 096	366
735 968 106	303	748 440 706	41, 55	749 440 725	42	790 122 104	368
735 968 107	303	748 440 707	41, 55	749 440 726	42	790 122 106	368
735 968 108	303	748 440 708	41, 55	761 066 796	370	790 122 989	368

# Index

Code	Page	Code	Page
790 131 005	357	790 310 099	370
790 131 030	358, 360	799 298 023	371
790 131 031	358, 360	799 300 156	370
790 131 032	358, 360	799 300 157	370
790 131 033	358, 360	799 300 158	370
790 131 034	358, 360	799 300 159	370
790 131 035	358, 360, 361	799 300 160	370
790 131 038	357, 367	799 300 161	370
790 131 039	357, 367	799 300 260	370
790 131 040	357, 367	799 300 270	370
790 131 041	357, 367	799 300 280	370
790 131 042	357, 367	799 300 290	370
790 131 043	357, 367	799 300 300	370
790 131 045	357	799 300 310	370
790 131 046	358	799 496 011	371
790 131 047	358	800 052 131	123
790 131 048	358	800 052 132	123
790 131 049	358	800 052 632	69
790 131 051	359	800 052 633	69
790 131 471	363	800 052 634	69
790 132 001	359	800 052 635	69
790 132 051	359	800 052 636	69
790 132 052	359	800 052 637	69
790 132 053	359		
790 132 054	359		
790 132 055	359		
790 132 059	360		
790 132 061	360		
790 132 062	360		
790 132 063	360		
790 132 064	360		
790 132 065	360		
790 132 066	360		
790 132 156	359		
790 132 157	359		
790 132 158	359		
790 133 009	361		
790 133 026	361		
790 133 027	361		
790 133 028	361		
790 133 029	361		
790 133 030	361		
790 133 031	361		
790 133 032	361		
790 133 033	361		
790 133 034	361		
790 133 036	360, 361		
790 133 037	360, 361		
790 133 038	360, 361		
790 133 039	361		
790 133 040	361		
790 133 041	362		
790 133 042	362		
790 133 043	362		
790 133 046	362		
790 133 047	362		
790 133 463	361		
790 133 494	362		
790 134 001	362		
790 310 034	369		
790 310 036	369		

# General Condition of Supply of Georg Fischer Piping Systems Limited, Schaffhausen

## 1 General

- 1.1 These General Conditions shall apply to all Products supplied by Georg Fischer Piping Systems Limited («Georg Fischer») to the Purchaser.  
They shall also apply to all future business even when no express reference is made to them.
- 1.2 Any deviating or supplementary conditions especially Purchaser's general conditions of purchase and verbal agreements shall only be applicable if accepted in writing by Georg Fischer.
- 1.3 The written form shall be deemed to be fulfilled by all forms of transmission, evidenced in the form of text, such as telefax, e-mail, etc.

## 2 Tenders

- Tenders shall only be binding if they contain a specifically stated period for acceptance.

## 3 Scope of Delivery

- 3.1 Georg Fischer's product range is subject to change.
- 3.2 The confirmation of order shall govern the scope and execution of the contract.

## 4 Data and Documents

- 4.1 Technical documents such as drawings, descriptions, illustrations and data on dimensions, performance and weight as well as the reference to standards are for information purposes only. They are not warranted characteristics and are subject to change.
- 4.2 All technical documents shall remain the exclusive property of Georg Fischer and may only be used for the agreed purposes or as Georg Fischer may consent.

## 5 Confidentiality, Protection of Personal Data

- 5.1 Each party shall keep in strict confidence all commercial or technical information relating to the business of the other party, of which it has gained knowledge in the course of its dealing with the other party. Such information shall neither be disclosed to third parties nor used for other purposes than those for which the information has been supplied.
- 5.2 In the context of the contractual relation with the Purchaser personal data may be processed. The Purchaser agrees to the disclosure of said data to third parties such as foreign subcontractors and suppliers etc.

## 6 Local Laws and Regulations, Export Controls

- 6.1 The Purchaser shall bring to the attention of Georg Fischer all local laws and regulations at the place of destination which bear connection with the execution of the contract and the adherence to relevant safety regulations and approval procedures.
- 6.2 In case of re-exports, Purchaser shall be responsible for compliance with pertinent export control regulations.

## 7 Price

- 7.1 Unless agreed otherwise, the prices shall be deemed quoted net ex works (according to Incoterms 2010 of the ICC, or latest version) including standard packing. All supplementary costs such as the cost of carriage, insurance, export-, transit- and import- licences etc. shall be borne by the Purchaser. The Purchaser shall also bear the costs of all taxes, fees, duties etc. connected with the contract.
- 7.2 If the costs of packing, carriage, insurance, fees and other supplementary costs are included in the tender price or contract price or are referred to specifically in the tender or confirmation of order, Georg Fischer reserve the right to revise their prices accordingly should any change occur in the relevant tariffs.

## 8 Terms of Payment

- 8.1 The Purchaser shall make payment in the manner agreed by the parties without any deductions such as discounts, costs, taxes or dues.
- 8.2 The Purchaser may only withhold or off-set payments due against counter claims which are either expressly acknowledged by Georg Fischer or finally awarded to the Purchaser.  
In particular, payment shall still be made when unessential items are still outstanding provided that the Products already delivered are not rendered unusable as a result.

## 9 Retention of Title

- 9.1 The Products shall remain the property of Georg Fischer until the Purchaser shall have settled all claims, present and future, which Georg Fischer may have against him.
- 9.2 Should the Purchaser resell Products to which title is reserved, in the ordinary course of business, he shall hereby be deemed to have tacitly assigned to Georg Fischer the proceeds deriving from their sale together with all collateral rights, securities and reservations of title until all claims held by Georg Fischer shall have been settled. Until revoked by Georg Fischer, this assignment shall not preclude Purchaser's right to collect the assigned receivables.
- 9.3 To the extent the value of the Products to which title is reserved together with collateral securities exceeds Georg Fischer's claims against the Purchaser by more than 20%, Georg Fischer shall re-assign the above proceeds to Purchaser at his request.

## 10 Delivery

- 10.1 The term of delivery shall commence as soon as the contract has been entered into, all official formalities such as import and payment permits have been obtained and all essential technical issues have been settled. The term of delivery shall be deemed duly observed when, upon its expiry, the Products are ready for despatch.
- 10.2 Delivery is subject to the following conditions, i.e. the term of delivery shall be reasonably extended:
  - a) if Georg Fischer are not supplied in time with the information necessary for the execution of the contract or if subsequent changes causing delays are made by the Purchaser.
  - b) if Georg Fischer are prevented from performing the contract by force majeure. Force majeure shall equally be deemed to be any unforeseeable event beyond Georg Fischer's control which renders Georg Fischer's performance commercially impractical or impossible, such as delayed or defective supplies from sub contractors labour disputes, governmental orders or regulations, shortages in materials or energy, serious disturbances in Georg Fischer's works, such as the total or partial destruction of plant and equipment or the breakdown of essential facilities, serious disruptions in transport facilities, e.g. impassable roads.  
Should the effect of force majeure exceed a period of six (6) months, either party may cancel the contract forthwith.  
Georg Fischer shall not be liable for any damage or loss of any kind whatsoever resulting from the reform, any suspension or cancellation being without prejudice to Georg Fischer's right to recover all sums due in respect of consignments delivered and costs incurred to date.
  - c) if the Purchaser is in delay with the fulfilment of his obligations under the contract, in particular, if he does not adhere to the agreed conditions of payment or if he has failed to timely provide the agreed securities.
- 10.3 If for reasons attributable to Georg Fischer the agreed term of delivery or a reasonable extension thereof is exceeded, Georg Fischer shall not be deemed in default until the Purchaser has granted to Georg Fischer in writing a reasonable extension thereof of not less than one (1) month which equally is not met.  
The Purchaser shall then be entitled to the remedies provided at law, it being however understood that, subject to limitations of Art. 16, damage claims shall be limited to max. 10% of the price of the delayed delivery.
- 10.4 Part shipments shall be allowed and Georg Fischer shall be entitled to invoice for such partial deliveries.
- 10.5 If the Purchaser fails to take delivery within a reasonable time of Products notified as ready for despatch, Georg Fischer shall be entitled to store the Products at the Purchaser's expense and risk and to invoice them as delivered. If Purchaser fails to effect payment, Georg Fischer shall be entitled to dispose of the Products.
- 10.6 Should Purchaser cancel an order without justification and should Georg Fischer not insist on the performance of the contract, Georg Fischer shall be entitled to a penalty amounting to 10% of the contract price, Georg Fischer's right to prove and claim higher damages remaining reserved.

Purchaser shall be entitled to prove, that Georg Fischer has suffered no or a considerably lower damage than the penalty forfeited.

## 11 Packing

If the Products are provided with additional packing over and above the standard packing, such packing shall be charged additionally.

## 12 Passing of Risk

- 12.1 The risk in the Products shall pass to the Purchaser as soon as they have left Georg Fischer's works (EX WORKS, Incoterms 2010 ICC, or latest version), even if delivery is made carriage-paid, under similar clauses or including installation or when carriage is organized and managed by Georg Fischer.
- 12.2 If delivery is delayed for reasons beyond Georg Fischer's control, the risk shall pass to the Purchaser when he is notified that the Products are ready for despatch.

## 13 Carriage and Insurance

- 13.1 Unless agreed otherwise, the Purchaser shall bear the cost of carriage.
  - 13.2 The Purchaser shall be responsible for transport insurance against damage of whatever kind. Even when such insurance is arranged by Georg Fischer it shall be deemed taken out by the order of and for the account of the Purchaser and at his risk.
  - 13.3 Special requests regarding carriage and insurance shall be communicated to Georg Fischer in due time. Otherwise carriage shall be arranged by Georg Fischer at their discretion, but without responsibility, by the quickest and cheapest method possible.  
In case of carriage-paid delivery transport arrangements shall be made by Georg Fischer. If the Purchaser specifies particular requirements, any extra costs involved shall be borne by him.
  - 13.4 In the event of damage or loss of the Products during carriage the Purchaser shall mark the delivery documents accordingly and immediately have the damage ascertained by the carrier. Not readily ascertainable damages sustained during carriage shall be notified to the carrier within six (6) days after receipt of the Products.
- ## 14 Inspection, Notification of Defects and Damages
- 14.1 The Products will be subject to normal inspection by Georg Fischer during manufacture. Additional tests required by the Purchaser shall be agreed upon in writing and shall be charged to the Purchaser.
  - 14.2 It shall be a condition of Georg Fischer's obligation under the warranties stated hereinafter that Georg Fischer be notified in writing by the Purchaser of any purported defect immediately upon discovery. Notice concerning weight, numbers or apparent defects is to be given latest within 30 days from receipt of the Products, notice of other defects immediately latest within seven (7) working days after discovery, in any event within the agreed warranty period.
  - 14.3 Purchaser shall not dispose of allegedly defective Products until all warranty and/or damage claims are finally settled. At its request, defective Products are to be placed at Georg Fischer's disposal.
  - 14.4 At its request, Georg Fischer shall be given the opportunity to inspect the defect and/or damage, prior to commencement of remedial work, either itself or by third party experts.

## 15 Warranty

- 15.1 At the written request of the Purchaser, Georg Fischer undertakes to repair or replace at its discretion, as quickly as possible and free of charge, all Products supplied which demonstrably suffer from faulty design, materials or workmanship, from faulty operating or installation instructions or which become defective or unusable due to faulty advice.  
In order to protect employees from toxic or radioactive substances which may have been transported through defective parts returned to Georg Fischer's sales organisation, said parts must be accompanied by a Material Safety Disclosure Form. The form may be obtained from Georg Fischer's local sales company or via [www.piping.georgfischer.com](http://www.piping.georgfischer.com).  
Replaced parts shall become property of Georg Fischer, unless Georg Fischer waives such claim.
- 15.2 For Products which are manufactured to specifications, drawings or patterns supplied by the Purchaser, Georg Fischer's warranty shall be restricted to proper materials and workmanship.
- 15.3 The Purchaser shall be entitled to rescind the contract or to demand a reduction of the contract price if
  - the repair or replacement of the defective Product is impossible
  - the defective Product is not repaired or replaced within a reasonable period
  - Georg Fischer refuses the repair or replacement or if for reasons attributable to Georg Fischer the repair or replacement is delayed.
- 15.4 For Products or essential components manufactured by a third party and supplied by Georg Fischer under this contract, Georg Fischer's warranty is limited to the warranty provided by said third party.
- 15.5 This warranty shall not apply to damage resulting from normal wear and tear, improper storage and maintenance, failure to observe the operating instructions, overstressing or overloading, unsuitable operating media, unsuitable construction work or unsuitable building ground, improper repairs or alterations by the Purchaser or third parties, the use of other than original spare parts and other reasons beyond Georg Fischer's control.
- 15.6 No action or claim may be brought by the Purchaser on account of any alleged breach of warranty or any other obligation of Georg Fischer after the expiration of twelve (12) months from receipt of the Products by the end user or at the latest within eighteen (18) months of the Products being despatched by Georg Fischer.
- 15.7 In case of Products for use in domestic installations or in utilities
  - Georg Fischer will assume the costs of dismantling the defective Product and restoring the damaged object up to CHF 1'000'000 per occurrence.
  - warranty or damage claims - contrary to Section 15.6 - are time-barred five (5) years from the date of installation or seven (7) years from the production date, whichever is earlier.

## 16 Limitation of Liability

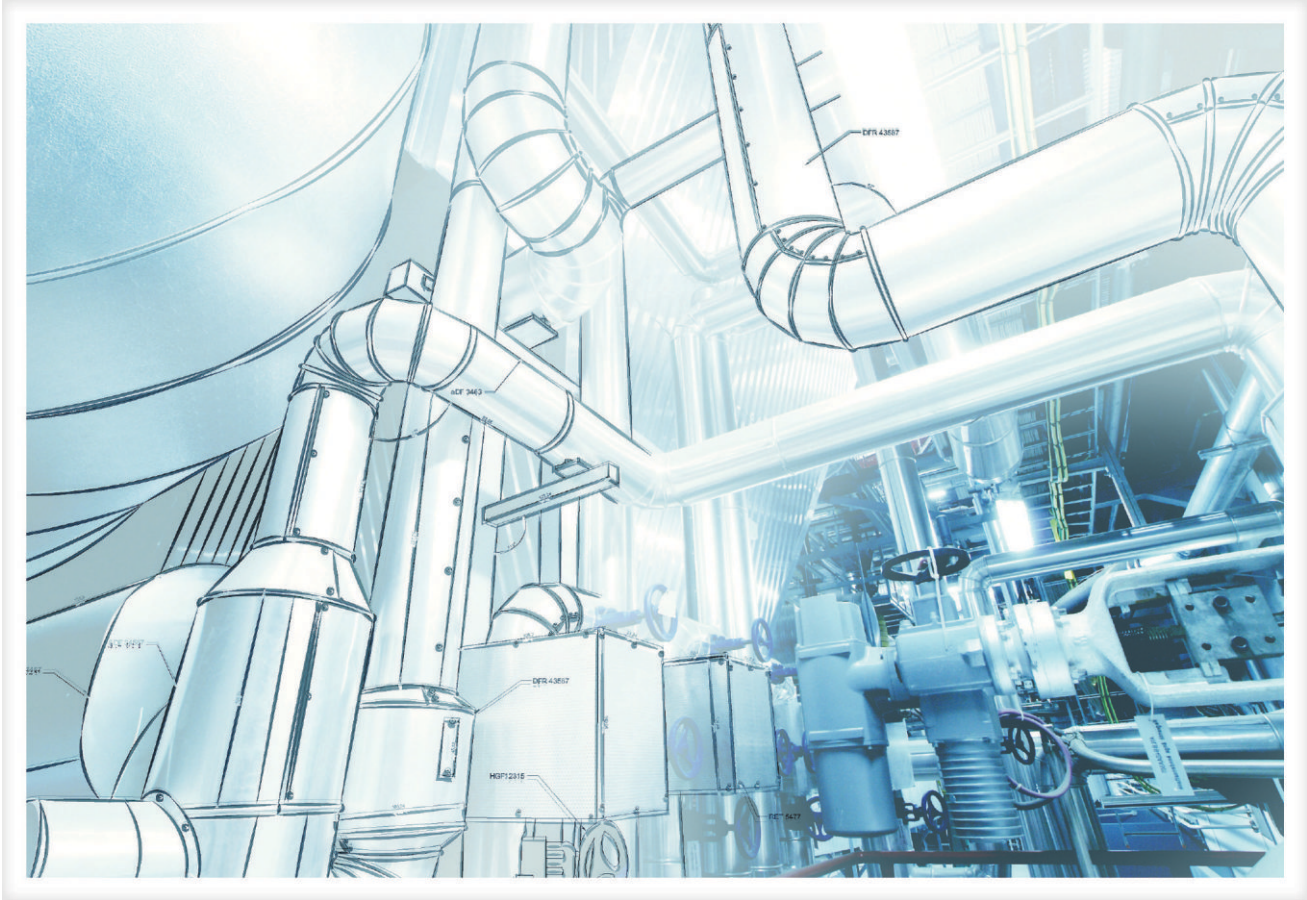
The rights and remedies of the customer shall be exclusively governed by these General Conditions of Supply and shall be in lieu of any remedies at law. All further claims for damages, reduction of the purchase price, termination of or rescission of the contract are excluded. In no case whatsoever shall the customer be entitled to claim damages other than compensation for costs of remedying defects in the supplies. This in particular refers, but shall not be limited, to loss of production, loss of use, loss of orders, loss of profit, third party recovery claims and other direct or indirect or consequential damages.  
This limitation of liability equally applies to the extent Georg Fischer is liable for acts or omissions of its employees or third parties engaged for the performance of its obligations. It does not apply in case of unlawful intent or gross negligence on the part of Georg Fischer's management and in case of Georg Fischer's statutory liability, in particular under applicable product liability laws.

## 17 Severability

Should any term or clause of these General Conditions in whole or in part be found to be unenforceable or void, all other provisions shall remain in full force and effect and the unenforceable or void provision shall be replaced by a valid provision, which comes closest to the original intention of the unenforceable or invalid provision.

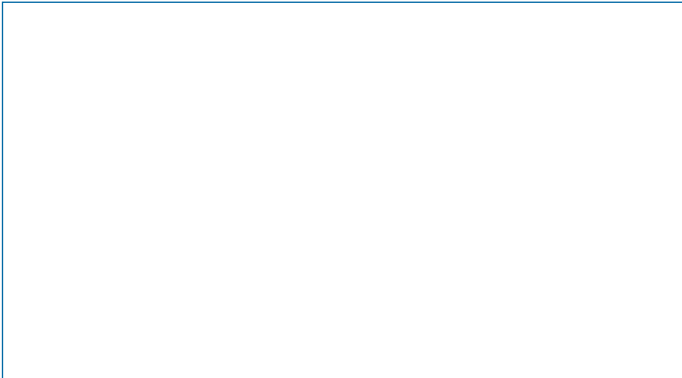
## 18 Place of Performance and Jurisdiction

- 18.1 Place of performance for the Products shall be the Georg Fischer works from which the Products are despatched.
- 18.2 The contract shall be governed by Swiss law without regard to conflict of law provisions that would require the application of another law.
- 18.3 Any civil action based upon any alleged breach of this contract shall be filed and prosecuted exclusively in the courts of Schaffhausen, Switzerland.  
Georg Fischer however reserves the right to file actions in any court having jurisdiction over controversies arising out of or in connection with the present contract.

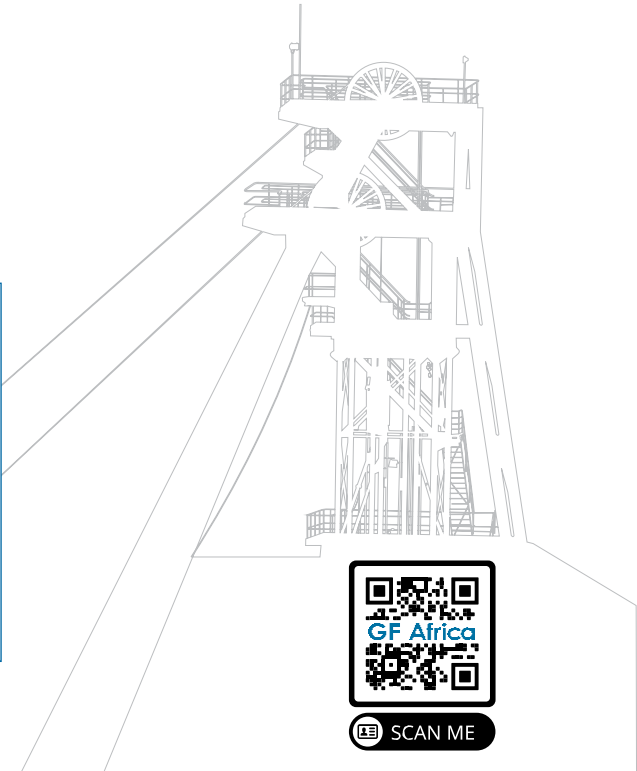


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