

### Construction

The pneumatic DR/SC quarter turn actuators operate according to the double piston rack and pinion principle. Double acting or single acting versions are available.

### Features

- DR/SC quarter turn actuators are particularly suitable for mounting to butterfly valves or ball valves with a standard connection ISO 5211. DIN 3337 (F03 - F25)
- VDI/VDE 3845 connections (sizes 0 - 4) for mounting accessories and NAMUR control air connections are available

### Advantages

#### • Housing

**Version A:** The aluminium housing is completely ALODUR coated inside and outside. ALODUR coating features:

- extremely abrasion resistant
- smooth surface (therefore less abrasion at the dynamic components)
- optimum corrosion resistance

**Version D:** The housing is hard anodized inside and outside and PTFE coated to a thickness of 25-30 µm.

The end caps are chromated and also PTFE coated to a thickness of 80-90 µm. This coating is suitable for use with acid or chemical solutions (electro-plating or offshore).

#### • Multifunction indicator

The position of the multifunction indicator can be quickly adapted for a parallel or 45° position indicator as well as for actuator positions mounted along or across the pipe. By exchanging the yellow plastic inserts for metal inserts (Eisamet) the multifunction indicator is suitable as a "trigger cam" for external mounting of proximity sensors (without housing) type F25 from P + F. Other externally Mounted proximity sensors (without housing) on request.



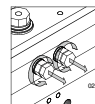
#### • Shaft connection

The octagonal shape offers the user more flexibility when mounting actuators. They can be mounted to valves with a parallel or diagonal square. All other shaft connections to EN ISO 5211 are possible on request.

#### • Stroke adjustment

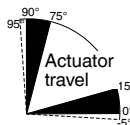
When mounting the actuator to the valve a lot of time can be saved using the precise cam system for adjusting both end positions  $\pm 20^\circ$ .

All end position adjustments are service friendly without disassembling the actuator.



#### • Temperature range

The temperature range of use of the actuators is  $-40^\circ\text{C}$  to  $+80^\circ\text{C}$ .



## Technical data

### Control medium

Filtered, dry compressed air, non-corrosive medium

### Control pressure

6 - 8 bar

### Temperature range

-40 °C to +80 °C, other temperatures on request

### Travel range

20° adjustable (75°-95°)

90°

## Double acting actuators

Type key	Actuator code	Actuator code Plastic butterfly valve	EN ISO 5211		
			Flange type	Shaft connection	Wrench size
DR0015U F04NS11AA	DU01AO0		F04	S	11
DR0030U F05F07NS14A	DU03AP0		F05/F07	S	14
DR0060U F05F07NS17A	DU06AC0	D006	F05/F07	S	17
DR0100U F05F07NS17A	DU10AC0	D010	F05/F07	S	17
DR0150U F07F10NS22A	DU15AD0	D015	F07/F10	S	22
DR0220U F07F10NS22A	DU22AD0		F07/F10	S	22
DR0300U F07F10NS22A	DU30AD0	D030	F07/F10	S	22
DR0450U F10F12NS27A	DU45AG0	D045	F10/F12	S	27
DR0600U F10F12NS27A	DU60AG0		F10/F12	S	27
DR0900U F10F12NS27A	DU90AG0		F12	S	27
DR0900U F14NS36A	DU90AK0		F14	S	36
DR1200U F10F12NS27A	D12UAG0		F10/F12	S	27
DR1200U F14NS36A	D12UAK0		F14	S	36
DR2000U F12ND27A	D20UAV0		F12	D	27
DR2000U F14NS36A	D20UAK0		F14	S	36
DR2000U F16NS46A	D20UAL0		F16	S	46

## Single acting actuators (control pressure 6 bar)

SC0015U 6 F04NS11A	SU01K00		F04	S	11
SC0030U 6 F05F07NS14A	SU03KP0		F05/F07	S	14
SC0030U 6 F04NS11A	SU03K00		F04	S	11
SC0060U 6 F05F07NS14A	SU06KP0		F05/F07	S	14
SC0100U 6 F05F07NS17A	SU10KC0	S010	F05/F07	S	17
SC0150U 6 F05F07NS17A	SU15KC0		F05/F07	S	17
SC0220U 6 F07F10NS22A	SU22KD0	S022	F07/F10	S	22
SC0300U 6 F07F10NS22A	SU30KD0	S030	F07/F10	S	22
SC0450U 6 F10F12NS27A	SU45KG0	S045	F10/F12	S	27
SC0600U 6 F10F12NS27A	SU60KG0		F10/F12	S	27
SC0900U 6 F10F12NS27A	SU90KG0	S090	F10/F12	S	27
SC1200U 6 F10F12NS27A	S12UKG0	S120	F10/F12	S	27
SC2000U 6 F14NS36A	S20UKK0		F14	S	36
SC2000U 6 F16NS46A	S20UKL0		F16	S	46
SC2000U 6 F12NS27A	S20UKQ0		F12	S	27
SC3000U 6 F14NS36A	S30UKK0		F14	S	36
SC3000U 6 F12ND27A	S30UKV0		F12	D	27
SC4000U 6 F16NS46A	S40UKQ0		F16	S	46
SC5000U 6 F16F25NS46A	S50UKS0		F16/F25	S	46

Other actuator sizes and flange designs on request

Actuators with shaft connection "S" can be mounted to valves with a parallel "L" and diagonal "D" square

## Choice of housing coatings

Type	Components and coating				Suitable for
	Housing	End cap	Shaft	Piston	
<b>A</b> (Standard)	ALODUR	Chromatized + Polyester coated	Chemically nickel-plated ENP	Anodized	General industry
<b>D</b> (Option)	ALODUR + PTFE coating	Chromatized + PTFE coated	Chemically nickel-plated ENP	Anodized	Corrosive environment. acid or chemical solutions

Torque ratings for single acting actuators [Nm]

SC	F/S	Control pressure																		Spring torque						
		2.5 bar		3 bar		3.5 bar		4 bar		4.2 bar		4.5 bar		5 bar		5.5 bar		6 bar				7 bar		8 bar		
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°			0°	90°	0°	90°	
0015U	S1	5.0	3.0	7.0	4.7	8.0	6.3	10.0	8.0	9.4	8.3	11.7	9.6	13.3	11.3									3.3	5.3	
	S2	4.0	1.9	6.0	3.6	7.7	5.3	9.3	6.9	9.0	7.4	11.0	8.6	12.7	10.2	14.3	11.9							4.0	6.4	
	S3			5.3	2.5	7.0	4.2	8.7	5.8	8.2	6.6	10.3	7.5	12.0	9.2	13.7	10.8	15.3	12.5					4.6	7.4	
	S4					6.3	3.0	8.0	5.0	7.6	5.8	9.7	6.4	11.3	8.1	13.0	9.8	14.7	11.4	18.0	14.7			5.3	8.5	
	S5							7.3	3.7	7.0	4.9	9.0	5.4	10.7	7.0	12.3	8.7	14.0	10.0	17.3	13.7	20.6	17.0	5.9	9.6	
	S6											8.4	4.3	10.0	6.0	11.7	7.6	13.3	9.3	16.7	12.6	20.0	16.0	6.6	10.6	
	S7													9.4	4.9	11.0	6.6	13.0	8.2	16.0	11.6	19.3	14.9	7.3	11.7	
	S8															10.4	7.2	12.0	7.2	15.3	10.5	18.7	13.8	7.9	12.8	
0030U	2/3	9.1	6.2	12.0	9.2	15.0	12.1	17.9	15.0	19.1	16.2	20.8	17.9	23.8	20.9									5.5	8.4	
	3	8.0	4.5	10.9	7.5	13.9	10.4	16.8	13.3	18.0	14.5	19.7	16.3	22.7	19.2	25.6	22.1							7.0	10.1	
	3/4			9.8	5.8	12.8	8.7	15.7	11.6	16.9	12.8	18.6	14.6	21.5	17.5	24.5	20.4	27.4	23.4					7.8	11.8	
	4					11.6	7.0	14.6	10.0	15.7	11.1	17.5	12.9	20.4	15.8	23.4	18.7	26.3	21.7	32.2	27.5			8.9	13.5	
	4/5							13.5	8.3	14.6	9.4	16.4	11.2	19.3	14.1	22.3	17.1	25.2	20.0	31.1	25.9	36.9	31.7	10.0	15.2	
	5											15.3	9.5	18.2	12.4	21.1	15.4	24.1	18.3	29.9	24.2	35.8	30.0	11.1	16.9	
	5/6													17.1	10.8	20.0	13.7	23.0	16.6	28.8	22.5	34.7	28.3	12.2	18.6	
6																	18.9	12.0	21.9	14.9	27.7	20.8	33.6	26.7	13.3	20.2
0060U	2/3	18.0	11.8	23.8	17.6	29.7	23.4	35.5	29.2	37.8	31.6	41.3	35.0	47.1	40.9									11.1	17.3	
	3	15.8	8.3	21.6	14.1	27.5	19.9	33.3	25.8	35.6	28.1	39.1	31.6	44.9	37.4	50.7	43.2							13.0	20.8	
	3/4			19.4	10.7	25.2	16.5	31.1	22.3	33.4	24.6	36.9	28.1	42.7	33.9	48.5	39.8	54.3	45.6					15.5	24.2	
	4					23.0	13.0	28.8	18.8	31.2	21.2	34.7	24.7	40.5	30.5	46.3	36.3	52.1	42.1	63.7	53.7			17.7	27.7	
	4/5							26.6	15.4	29.0	17.7	32.5	21.2	38.3	27.0	44.1	32.8	49.9	38.6	61.5	50.3	73.2	61.9	19.9	31.2	
	5											30.2	17.7	36.1	23.6	41.9	29.4	47.7	35.2	59.3	46.8	71.0	58.5	22.1	34.6	
	5/6													33.8	20.1	39.7	25.9	45.5	31.7	57.1	43.4	68.7	55.0	24.3	38.1	
6																	37.5	22.4	43.3	28.3	54.9	39.9	66.5	51.5	26.5	41.5
0100U	2/3	27.4	16.9	36.6	26.0	45.7	35.2	54.9	44.3	58.5	48.0	64.0	53.5	73.2	62.6									18.3	28.9	
	3	23.8	11.1	32.9	20.3	42.1	29.4	51.2	38.6	54.9	42.2	60.4	47.7	69.5	56.9	78.7	66.0							22.0	34.7	
	3/4			29.2	14.5	38.4	23.6	47.5	32.8	51.2	36.4	56.7	41.9	65.8	51.1	75.0	60.2	84.2	69.4					25.7	40.4	
	4					34.7	17.9	43.9	27.0	47.5	30.7	53.0	36.2	62.2	45.3	71.3	54.5	80.5	63.6	98.8	81.9			29.3	46.2	
	4/5							40.2	21.2	43.9	24.9	49.4	30.4	58.5	39.5	67.7	48.7	76.8	57.8	95.1	76.1	113.4	94.5	33.0	52.0	
	5											45.7	24.6	54.8	33.8	64.0	42.9	73.1	52.1	91.5	70.4	109.8	88.7	36.7	57.8	
	5/6													51.2	28.0	60.3	37.1	69.5	46.3	87.8	64.6	106.1	82.9	40.3	63.5	
6																	56.7	31.4	65.8	40.5	84.1	58.8	102.4	77.1	44.0	69.3
0150U	2/3	41.1	27.1	54.4	40.4	67.7	53.7	81.0	67.0	86.3	72.3	94.3	80.3	107.6	93.6									25.3	39.4	
	3	36.1	19.2	49.4	32.5	62.7	45.8	76.0	59.1	81.3	64.4	89.3	72.4	102.5	85.7	115.8	99.0							30.0	47.3	
	3/4			44.3	24.6	57.6	37.9	70.9	51.2	76.2	56.5	84.2	64.5	97.5	77.8	110.8	91.1	124.1	104.4					35.5	55.1	
	4					52.5	30.0	65.8	43.3	71.1	48.7	79.1	56.6	92.4	69.9	105.7	83.2	119.0	96.5	145.6	123.1			40.5	63.0	
	4/5							60.8	35.5	66.1	40.8	74.0	48.8	87.3	62.1	100.6	75.3	113.9	88.6	140.5	115.2	167.1	141.8	45.6	70.9	
	5											69.0	40.9	82.3	54.2	95.6	67.5	108.9	80.8	135.5	107.4	162.0	133.9	50.7	78.8	
	5/6													77.2	46.3	90.5	59.6	103.8	72.9	130.4	99.5	157.0	126.1	55.7	86.7	
6																	85.4	51.7	98.7	65.0	125.3	91.6	151.9	118.2	60.8	94.5
0220U	2/3	66.5	41.9	87.9	63.4	109.4	84.9	131.0	106.4	140.0	115.0	152.0	127.9	174.0	149.4									41.0	65.5	
	3	58.3	28.8	79.7	50.3	101.2	71.8	123.0	93.3	131.0	101.9	144.0	114.8	166.0	136.3	187.0	157.8							49.2	78.6	
	3/4			71.5	37.2	93.0	58.7	115.0	80.2	123.0	88.8	136.0	101.7	158.0	123.2	179.0	144.7	200.0	166.2					57.4	91.7	
	4					84.8	45.6	106.0	67.1	115.0	75.7	128.0	88.6	149.0	110.1	171.0	131.6	192.0	153.1	253.3	196.0			65.6	105.0	
	4/5							98.0	54.0	107.0	62.6	120.0	75.5	141.0	97.0	163.0	118.5	184.0	140.0	227.1	182.9	270.1	225.9	73.8	118.0	
	5											111.0	62.4	133.0	83.9	154.0	105.4	176.0	126.9	218.9	169.8	261.9	212.8	82.0	131.0	
	5/6													125.0	70.8	146.0	92.3	168.0	113.8	210.7	156.7	253.7	199.7	90.2	144.0	
6																	138.0	79.2	159.0	100.7	202.5	143.6	245.5	186.6	98.4	157.0
0300U	2/3	86	56	114	84	141	111	169	139	180	150	197	167	224	195									53	82	
	3	75	40	103	67	131	95	159	123	170	134	186	150	214	178	242	206							63	99	
	3/4			93	51	120	79	148	106	159	117	176	134	203	162	231	189	259	217					74	115	
	4					110	62	138	90	149	101	165	117	193	145	221	173	248	201	304	256			84	132	
	4/5							127	73	138	84	155	101	182	129	210	156	238	184	293	239	349	295	95	148	
	5											144	84	172	112	200	140	227	168	283	223	338	278	105	165	
	5/6													161	96	189	123	217	151	272	206	328	262	116	181	
6																	179	107	206	135	262	190	317	245	12	

Torque ratings for single acting actuators [Nm]

SC	F/S	Control pressure																		Spring torque							
		2.5 bar		3 bar		3.5 bar		4 bar		4.2 bar		4.5 bar		5 bar		5.5 bar		6 bar				7 bar		8 bar			
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°			0°	90°	0°	90°		
0600U	2/3	171	118	228	174	285	231	342	288	364	310	398	344	455	401									112	166		
	3	149	84	206	141	262	198	319	255	342	277	376	311	433	268	489	425							135	199		
	3/4			183	108	240	165	297	221	319	244	353	278	410	335	467	391	524	448					157	233		
	4					218	131	274	188	297	211	331	245	388	302	444	358	501	415	615	528			180	266		
	4/5							252	155	275	178	309	212	365	268	422	325	479	382	592	495	706	609	202	299		
	5													286	178	343	235	400	292	456	349	570	462	683	575	224	332
	5/6															320	202	377	259	434	315	547	429	661	542	247	365
6																	355	225	411	282	525	396	638	509	269	399	
0900U	2/3	225	146	301	223	378	299	455	376	485	406	531	452	608	529									158	237		
	3	193	99	270	175	346	252	423	329	454	359	500	406	576	482	653	558							190	284		
	3/4			238	128	315	205	391	271	422	312	468	358	544	434	621	511	698	587					221	332		
	4					283	157	360	234	390	264	436	310	513	387	589	464	666	540	819	693			253	379		
	4/5							328	186	359	217	405	263	481	340	558	416	634	493	788	646	941	799	285	426		
	5													373	216	450	292	526	369	603	445	756	599	909	752	316	474
	5/6															418	245	495	321	571	398	724	551	877	704	348	521
6																	463	274	540	351	693	504	846	657	379	568	
1200U	2/3	319	217	426	323	532	430	638	536	681	578	745	642	851	749									213	315		
	3	277	154	383	260	489	367	596	473	638	515	702	579	808	686	915	792							255	378		
	3/4			341	197	447	304	553	410	596	453	660	516	766	623	872	729	979	835					298	441		
	4					404	241	511	347	553	390	617	453	723	560	830	666	936	772	1149	985			340	504		
	4/5							468	284	511	327	575	390	681	497	787	603	894	709	1106	922	1319	1135	383	567		
	5													532	327	638	434	745	540	851	646	1064	859	1277	1072	425	630
	5/6															596	371	702	477	809	583	1021	796	1234	1009	468	693
6																	660	414	766	520	979	733	1192	946	510	756	
2000U	2/3	533	372	712	551	890	730	1069	908	1141	980	1248	1087	1426	1266									360	521		
	3	461	268	640	447	818	625	997	804	1068	876	1176	983	1354	1162	1533	1340							433	625		
	3/4			568	343	746	521	925	700	996	771	1104	879	1282	1057	1461	1236	1640	1415					505	730		
	4					674	417	853	569	924	667	1032	774	1210	953	1389	1132	1568	1310	1925	1668			577	834		
	4/5							781	491	852	563	959	670	1138	849	1317	1028	1495	1206	1853	1564	2210	1921	649	938		
	5													887	566	1066	745	1245	923	1423	1102	1781	1459	2138	1817	721	1042
	5/6															994	640	1173	819	1351	998	1709	1355	2066	1713	793	1146
6																	1101	715	1279	894	1637	1251	1994	1608	865	1251	
3000U	2/3	751	496	1011	755	1270	1015	1529	1274	1633	1378	1789	1533	2048	1793									546	801		
	3	642	336	902	595	1161	854	1420	1114	1524	1217	1680	1373	1939	1632	2198	1892							655	961		
	3/4			792	435	1052	694	1311	954	1415	1057	1570	1213	1830	1472	2089	1732	2349	1991					764	1121		
	4					943	534	1202	793	1306	897	1461	1053	1721	1312	1980	1571	2239	1831	2758	2350			873	1281		
	4/5							1093	633	1197	737	1352	893	1612	1152	1871	1411	2130	1671	2649	2189	3168	2708	982	1442		
	5													1243	732	1503	992	1762	1251	2021	1510	2540	2029	3059	2548	1091	1602
	5/6															1393	832	1653	1091	1912	1350	2431	1869	2950	2388	1200	1762
6																	1544	931	1803	1190	2322	1709	2840	2228	1309	1922	
4000U	2/3	1064	703	1423	1062	1782	1421	2141	1780	2284	1924	2500	2139	2859	2498									731	1092		
	3	918	485	1277	844	1636	1203	1995	1562	2138	1706	2354	1921	2713	2280	3072	2639							877	1310		
	3/4			1131	626	1489	985	1848	1344	1992	1487	2207	1703	2566	2062	2925	2421	3284	2780					1023	1528		
	4					1343	766	1702	1125	1846	1269	2061	1484	2420	1843	2779	2202	3138	2561	3856	3279			1170	1746		
	4/5							1556	907	1700	1051	1915	1266	2274	1625	2633	1984	2992	2343	3710	3061	4428	3779	1316	1965		
	5													1769	1048	2128	1407	2487	1766	2846	2125	3564	2843	4282	3660	1462	2183
	5/6															1982	1188	2341	1547	2700	1906	3418	2624	4135	3342	1608	2401
6																	2194	1329	2553	1688	3271	2406	3989	3124	1754	2620	
5000U	2/3	1332	1014	1783	1465	2233	1915	2684	2365	2864	2546	3134	2816	3585	3266									920	1238		
	3	1149	767	1599	1217	2049	1667	2500	2118	2680	2298	2950	2568	3401	3019	3851	3469							1104	1486		
	3/4			1415	969	1865	1420	2316	1870	2496	2050	2766	2321	3217	2771	3667	3222	4118	3672					1288	1733		
	4					1682	1172	2132	1623	2312	1803	2582	2073	3033	2524	3483	2974	3934	3424	4837	3993			1472	1981		
	4/5							1948	1375	2128	1555	2398	1825	2849	2276	3299	2726	3750	3177	4648	3693	-	-	1656	2229		
	5													2215	1578	2665	2028	3115	2479	3566	2929	4458	3403	-	-	1839	2476
	5/6															2481	1781	2931	2231	3382	2682	4269	3107	-	-	2023	2724
6																	2748	1983	3198	2434	4079	2812	-	-	2207	2971	

Torque ratings for double acting actuators [Nm]											
DR	Control pressure										
	2.5 bar	3 bar	3.5 bar	4 bar	4.2 bar	4.5 bar	5 bar	5.5 bar	6* bar	7 bar	8 bar
0015U	8.3	10.0	11.6	13.3	14.0	15.0	16.6	18.3	19.9	23.3	26.6
0030U	14.7	18.0	20.5	23.5	25.0	26.0	29.3	32.0	35.2	41.0	46.9
0060U	29.1	35.0	40.7	46.5	49.0	52.0	58.2	64.0	69.8	81.4	93.1
0100U	46.0	55.0	64.0	73.0	77.0	82.0	92.0	101.0	110.0	128.0	146.0
0150U	66.5	80.0	93.1	106.0	112.0	120.0	133.0	146.0	160.0	186.0	213.0
0220U	107.0	129.0	150.0	172.0	181.0	193.0	215.0	236.0	258.0	301.0	344.0
0300U	138.0	166.0	194.0	222.0	233.0	249.0	277.0	305.0	332.0	388.0	443.0
0450U	217.0	261.0	304.0	348.0	365.0	391.0	435.0	478.0	522.0	609.0	696.0
0600U	284.0	340.0	397.0	454.0	477.0	511.0	567.0	624.0	681.0	794.0	908.0
0900U	383.0	459.0	536.0	613.0	643.0	689.0	766.0	842.0	919.0	1072.0	1225.0
1200U	532.0	638.0	745.0	851.0	893.0	957.0	1064.0	1170.0	1276.0	1489.0	1702.0
2000U	893.0	1072.0	1251.0	1430.0	1501.0	1608.0	1787.0	1966.0	2144.0	2502.0	2859.0
3000U	1297.0	1556.0	1815.0	2075.0	2179.0	2334.0	2594.0	2853.0	3112.0	3631.0	4150.0
4000U	1795.0	2154.0	2513.0	2872.0	3015.0	3231.0	3590.0	3949.0	4308.0	5026.0	5744.0
5000U	2252.0	2703.0	3153.0	3604.0	3784.0	4054.0	4504.0	4955.0	5405.0	6306.0	-

\* GEMÜ - Standard

Air consumption [l / stroke]											
Actuator		Control pressure									
		2.5 bar	3 bar	3.5 bar	4 bar	4.5 bar	5 bar	5.5 bar	6 bar	7 bar	8 bar
0015U	DR	0.84	0.96	1.08	1.20	1.32	1.44	1.56	1.68	1.92	2.16
	SC	0.32	0.36	0.41	0.45	0.50	0.54	0.59	0.63	0.72	0.81
0030U	DR	1.47	1.68	1.89	2.10	2.31	2.52	2.73	2.94	3.36	3.78
	SC	0.56	0.64	0.72	0.80	0.88	0.96	1.04	1.12	1.28	1.44
0060U	DR	2.80	3.20	3.60	4.00	4.40	4.80	5.20	5.60	6.40	7.20
	SC	1.09	1.24	1.40	1.55	1.71	1.86	2.02	2.17	2.48	2.79
0100U	DR	4.52	5.16	5.81	6.45	7.10	7.74	8.39	9.03	10.32	11.61
	SC	1.79	2.04	2.30	2.55	2.81	3.06	3.32	3.57	4.08	4.59
0150U	DR	6.37	7.28	8.19	9.10	10.01	10.92	11.83	12.74	14.56	16.38
	SC	2.49	2.84	3.20	3.55	3.91	4.26	4.62	4.97	5.68	6.39
0220U	DR	10.47	11.96	13.46	14.95	16.45	17.94	19.44	20.93	23.92	26.91
	SC	4.17	4.76	4.76	5.95	6.55	7.14	7.74	8.33	9.52	9.52
0300U	DR	13.58	15.52	17.46	19.40	21.34	23.28	25.22	27.16	31.04	34.92
	SC	5.39	6.16	6.93	7.70	8.47	9.24	10.01	10.78	12.32	13.86
0450U	DR	21.67	24.76	27.86	30.95	34.05	37.14	40.24	43.33	49.52	55.71
	SC	8.44	9.64	10.85	12.05	13.26	14.46	15.67	16.87	19.28	21.69
0600U	DR	28.21	32.24	36.27	40.30	44.33	48.36	52.39	56.42	64.48	72.54
	SC	10.99	12.56	14.13	15.70	17.28	18.84	20.41	21.98	25.12	28.26
0900U	DR	39.03	44.60	50.18	55.75	61.33	66.90	72.48	78.05	89.20	100.35
	SC	14.91	17.04	19.17	21.30	23.43	25.56	27.69	29.82	34.08	38.34
1200U	DR	53.90	61.60	69.30	77.00	84.70	92.40	100.10	107.80	123.20	138.60
	SC	20.79	23.76	26.73	29.70	32.67	35.64	38.61	41.58	47.52	53.46
2000U	DR	88.20	100.80	113.40	126.00	138.60	151.20	163.80	176.40	201.60	226.80
	SC	35.00	40.00	45.00	50.00	55.00	60.00	65.00	70.00	80.00	90.00
3000U	DR	125.58	143.52	161.46	179.40	197.34	215.28	233.22	251.16	287.04	322.92
	SC	50.75	58.00	65.25	72.50	79.75	87.00	94.25	101.50	116.00	130.50
4000U	DR	185.50	212.00	238.50	265.00	291.50	318.00	344.50	371.00	424.00	477.00
	SC	70.00	80.00	90.00	100.00	110.00	120.00	130.00	140.00	160.00	180.00
5000U	DR	227.50	260.00	292.50	325.00	357.50	390.00	422.50	455.00	520.00	585.00
	SC	87.50	100.00	112.50	125.00	137.50	150.00	162.50	175.00	200.00	225.00

## Order data

Type	Code
Double acting, clockwise rotation	DR
Double acting, anticlockwise rotation	DL
Single acting, spring closing	SC
Single acting, spring opening	SO

Actuator size (Standard torque ratings at 6 bar control pressure)			Code
DR/DL	SC	SO	
19.9	7.9	12.8	0015U
35.2	13.3	20.2	0030U
69.8	26.5	41.5	0060U
110.0	44	69.3	0100U
160.0	60.8	94.5	0150U
258.0	98.4	157	0220U
332.0	126	198	0300U
522.0	198	309	0450U
681.0	269	399	0600U
919.0	379	568	0900U
1276.0	510	756	1200U
2144.0	865	1251	2000U
3112.0	1309	1922	3000U
4308.0	1754	2620	4000U
5405.0	2207	2971	5000U

also see tables on pages 3 - 5

Springs/Side (F/S)	Code
Double acting	-
Single acting - correlation see table on pages 3/4	1 - 8

Connection size	Code
Flange type F04	F04
Flange type F05/F07	F05/F07
Flange type F07/F10	F07/F10
Flange type F10/F12	F10/F12
Flange type F12	F12
Flange type F16	F16
Flange type F25	F25

Location spigot	Code
Without location spigot	N
With location spigot	Y

Coupling	Code
Diagonal square	D
Parallel square	L
Double flats	H
Single keyway	V
Star (double square) - standard	S

Wrench size	Code
Wrench size SW	11 - 55
see table page 2	

Coating	Code
Alodur - Standard	A
Alodur + PTFE coating	D

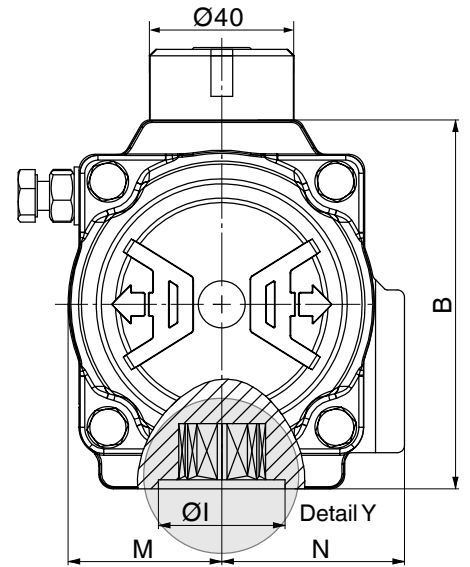
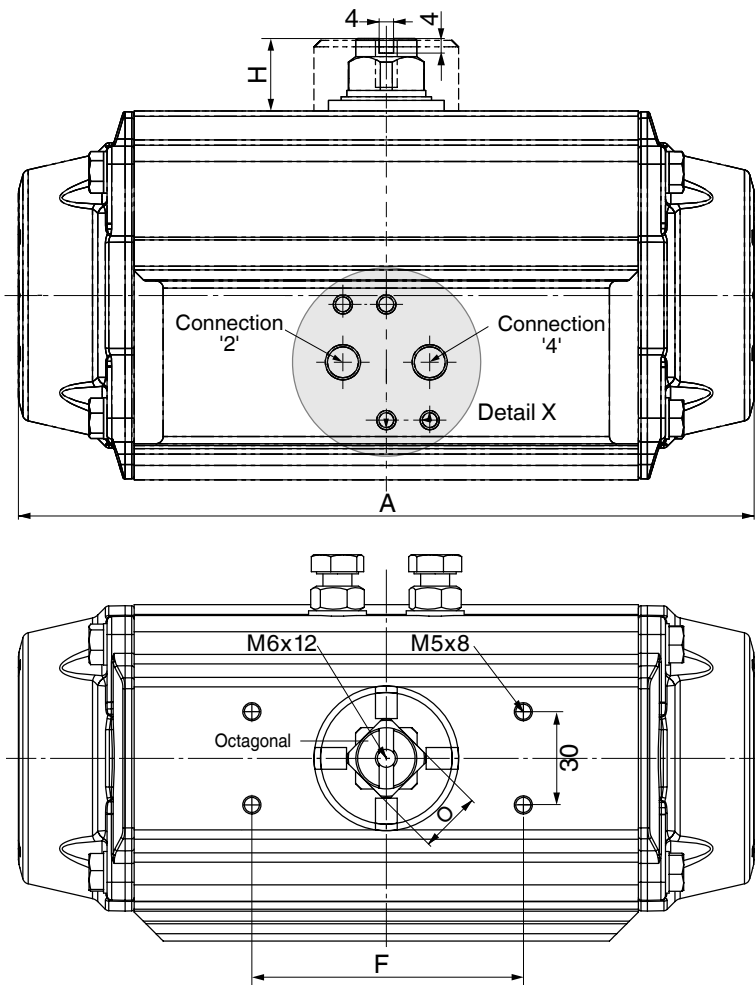
Stroke limiter	Code
Without	-
Stroke limiter 0-100%	H

Special function	Code
Atex	X

Order example	SC	0060U	6	F04	N	S	11	A	-	-
Type	SC									
Actuator size (code)		0060U								
Springs/Side (code)			6							
Connection size (code)				F04						
Location spigot (code)					N					
Coupling (code)						S				
Wrench size (code)							11			
Coating (code)								A		
Stroke limiter (code)									-	
Special function (code)										-



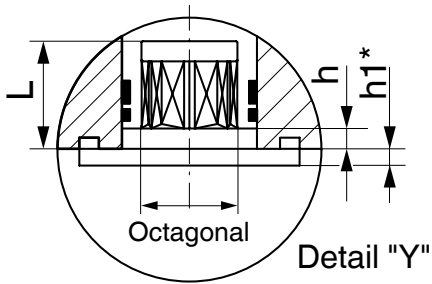
Actuator dimensions [mm]



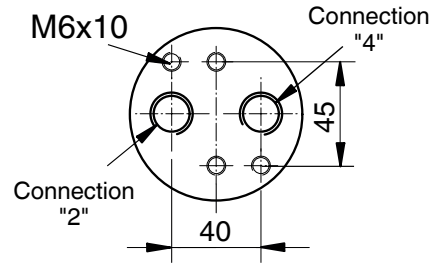
Detail "X" and "Y"  
see mounting dimensions

Type	0015U	0030U	0060U	0100U	0150U	0220U	0300U	0450U	0600U	0900U	1200U	2000U	3000U	4000U	5000U
ISO Flange	F04	F04/05	F05/07	F05/07	F07/10	F07/10	F07/10	F10/12	F10/12	F10/F14	F14	F16	F16	F16	F25
Octagonal	11	14	14	17	17	22	22	27	27	36	36	46	46	46	55
Air connector	G 1/8	G 1/8	G 1/8	G 1/8	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 1/4	G 3/8	G 1/2	G 1/2	G 1/2
<b>A</b>	136.0	153.5	203.5	241.0	259.0	304.0	333.0	394.5	422.5	474.0	528.0	605.0	710.0	812.0	876.0
<b>B</b>	69.0	85.0	102.0	115.0	127.0	145.0	157.0	177.0	196.0	220.5	245.0	298.5	330.0	383.0	410.0
<b>F</b>	80	80	80	80	80	80	80	80	80	130	130	130	130	130	130
<b>H</b>	20	20	20	20	20	30	30	30	30	50	50	50	50	50	50
<b>Ø I</b>	30	35	35	40	55	55	55	70	70	100	100	130	130	130	200
<b>M</b>	29.0	36.0	42.5	49.5	55.5	64.0	69.5	80.0	88.0	99.0	110.0	131.0	165.0	185.5	204.0
<b>N</b>	43.0	48.5	50.5	56.5	63.0	72.0	77.0	86.0	93.0	101.0	111.5	131.0	165.0	185.5	214.0
<b>O</b>	11	11	17	17	17	27	27	27	27	36	36	36	36	36	36
<b>S</b>	24	24	24	24	24	24	24	24	24	24	24	40	40	40	40
<b>h</b>	0.5	0.5	0.5	1.5	1.5	1.5	1.5	1.5	1.5	2	2	2.5	2.5	2.5	2.5
<b>Weight [kg]</b>															
<b>DR</b>	1.0	1.6	2.7	3.7	5.2	8.0	9.8	14.0	18.0	24.0	34.0	53.0	74.0	123.0	127.0
<b>SC</b>	1.1	1.7	3.1	4.3	6.1	9.3	12.0	17.0	22.0	33.0	42.0	67.0	93.0	155.0	169.0

## Mounting dimensions [mm]

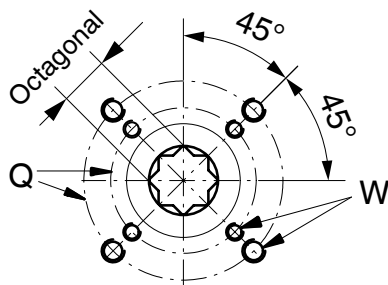


Type 2000U-4000U

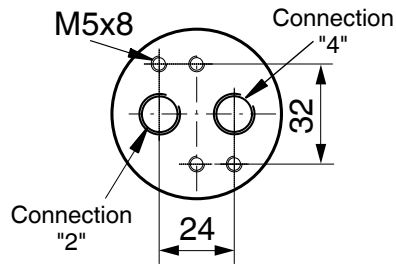


Detail "X"

Bottom - ISO 5211

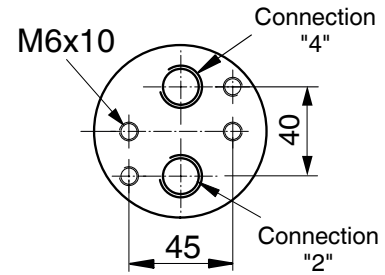


Type 0015U-1200U



VDI/VDE 3845 Detail "X"

Type 5000U



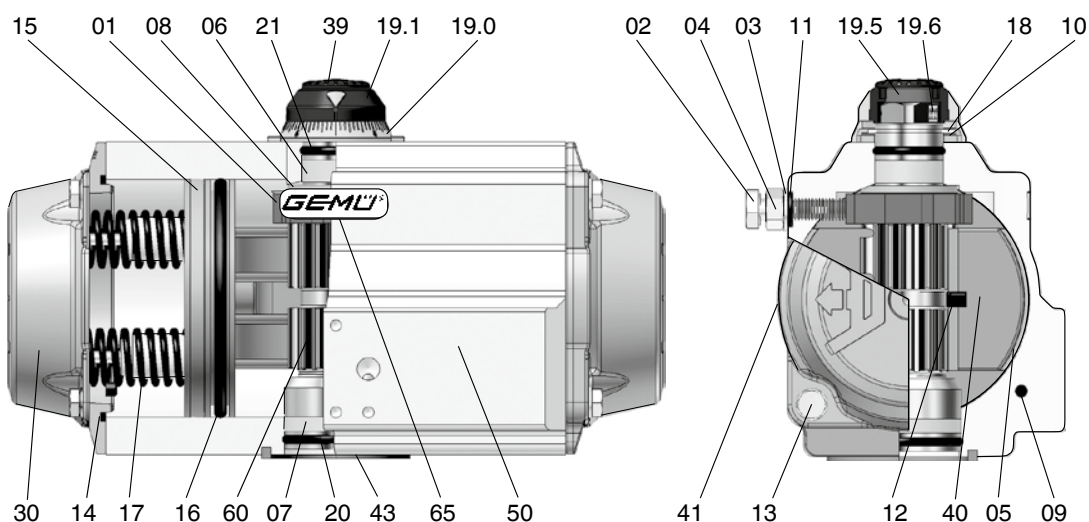
Detail "X"

Type	0010U	0015U	0030U		0060U	0100U	0150U		0220U	0300U	0450U	0600U
ISO flange	F04	F04	F04	F05/07	F05/07	F05/07	F05/07	F07/10	F07/10	F07/10	F10/12	F10/12
Octagonal	11	11	11	14	14	17	17	22	22	22	27	27
Air connector	G 1/8	G 1/8	G 1/8		G 1/8	G 1/8	G 1/4		G 1/4	G 1/4	G 1/4	G 1/4
L	11	11	11	16	19	19	19		19	25	32	40
Q	42	42	42	50/70	50/70	50/70	50/70	70/102	70/102	70/102	70/102	70/102
W	M5	M5	M5	M6/M8	M6/M8	M10	M6/M8	M8/M10	M8/M10	M8/M10	M10/M12	M10/M12
h1 max (*)	1.5	1.5	2	NA	2	1.5	2		2	2	3	3
h min	0.5	0.5	0.5	0.5	0.5	1.5	1.5		1.5	1.5	1.5	1.5

Type	0900U			1200U		2000U			3000U		4000U	5000U
ISO flange	F12	F14	F10/12	F10/12	F14	F12	F14	F16	F12	F14	F16	F16/25
Octagonal	27	36	27	37	36	27	36	46	27	36	46	46
Air connector	G 1/4			G 1/4		G 3/8			G 1/2		G 1/2	G 1/2
L	40	38	34	40	38	40	38	48	40	38	57	57
Q	150	175	70/102	70/102	175	102	175	210	150	175	210	210/300
W	M12	M16	M10/M12	M10/M12	M16	M12	M16	M20	M12	M16	M20	M20/M16
h1 max (*)	3			3		2.5			2.5		4	3.5
h min	2			2		1.5			1.5		2.5	2.5



## Standard actuator



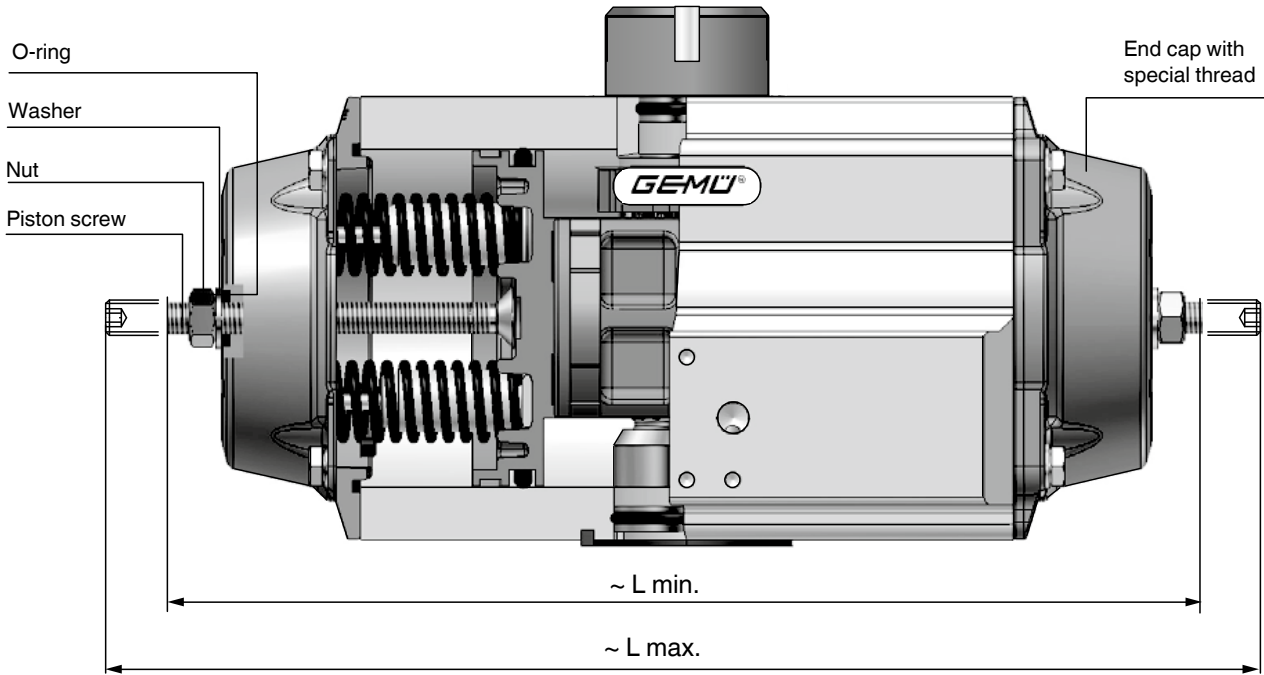
PART N°	UNIT Q.TY	PART DESCRIPTION	MATERIAL
01 <sup>1</sup>	1	OCTI-CAM (stroke adjustment)	Stainless steel (DRSC00060 to DRSC00150) Carbon steel, zinc coated (DRSC00220 to DRSC02000)
02	2	TRAVEL STOP SCREW	Stainless steel
03	2	WASHER	Stainless steel
04	2	NUT (travel stop screw)	Stainless steel
05*	2	BEARING (piston back)	PA46
06*	1	BEARING (pinion top )	High-grade polymer
07*	1	BEARING (pinion bottom)	High-grade polymer
08*	1	THRUST BEARING (pinion)	PA46
09*	2	PLUG (transfer port)	Silicone
10	1	THRUST WASHER (pinion)	Stainless steel
11*	2	O-RING (travel stop screw)	M-NBR
12	2	THRUST SHOULDER	PA66 + GF
13 <sup>2</sup>	8/12/16	CAP SCREW	Stainless steel
14*	2	O-RING (end cap)	M-NBR
15*	2	BEARING (piston head)	POM
16*	2	O-RING (piston)	M-NBR
17	min. 5 max. 12	SPRING (cartridge)	SiCr Epoxy coated spring steel alloy
18	1	SPRING CLIP (pinion)	Spring steel, ENP
19.0	1	GRADUATED RING	PA66+GF+CB
19.1	1	POSITION INDICATOR	PA66+GF+(CB)
19.5	1	SHAFT ADAPTOR	Extruded aluminium alloy, anodized
19.6	2	HEX. SOCKET SCREW (top adaptor)	Stainless steel
20*	1	O-RING (pinion bottom)	M-NBR
21*	1	O-RING (pinion top)	M-NBR
30 <sup>3</sup>	2	END CAP	Pressure die cast aluminium alloy, anodized and coated
39	1	SCREW (position indicator)	PA66+GF+CB
40	2	PISTON	Pressure die cast aluminium alloy, anodized
41	1	ACTUATOR IDENTIFICATION LABEL	Polyester-Silver
43	1	LOCATION SPIGOT (only on request)	Extruded aluminium alloy, anodized
50	1	HOUSING	Extruded aluminium alloy, coated
60	1	DRIVE SHAFT	Steel, ENP
60.1	1	INTEGRAL DRIVE SHAFT	Stainless steel, ENP
65	1	PLASTIC INSERT	PA66

\* Included in spare parts kit; type ES4G

<sup>1</sup> Type DR/SC 0220-5000; <sup>2</sup> 8 pcs. type DR/SC 0015-2000; 12 pcs. type DR/SC 3000;

<sup>3</sup> Type DR/SC 0600-3000 end caps are symmetric

## Actuator with travel stop adjustment (stroke limiter)



### Actuator with stroke adjustment (100%) dependent on travel range

DR/SC	0015U	0030U	0060U	0100U	0150U	0220U	0300U	0450U	0600U	0900U	1200U	2000U	3000U	4000U	5000U
L min (mm)	158	184	242	280	303	356	368	449	461	531	628	653	762	910	910
L max (mm)	186	216	286	330	359	424	444	537	555	631	739	785	918	1080	1086

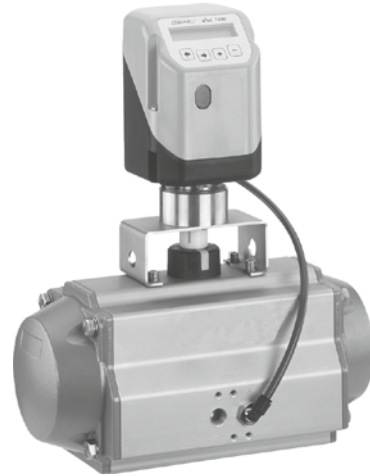
Type	Air volume (L)		Switching times* (Sec.) (A)				Weight [kg]	
	opening	closing	DR opening	DR closing	SC opening	SC closing	DR	SC
0015U	0.1	0.2	0.2	0.3	0.3	0.3	1.0	1.1
0030U	0.2	0.3	0.3	0.3	0.3	0.4	1.6	1.7
0060U	0.3	0.5	0.3	0.4	0.4	0.5	2.7	3.2
0100U	0.5	0.8	0.4	0.5	0.5	0.6	3.8	4.4
0150U	0.7	1.1	0.5	0.7	0.7	0.9	5.4	6.5
0220U	1.2	1.8	0.7	0.9	0.9	1.1	8.4	9.8
0300U	1.5	2.3	0.9	1.2	1.2	1.4	10.2	12.6
0450U	2.4	3.8	1.2	1.5	1.5	1.8	14.5	18.1
0600U	3.1	4.9	1.5	1.8	1.8	2.1	19.8	24.0
0900U	4.3	6.9	2.0	2.4	2.4	2.8	25.0	31.6
1200U	5.9	9.5	2.7	3.5	3.5	4.0	35.5	45.1
2000U	10.0	15.2	3.5	4.1	4.1	4.6	53.0	64.2
3000U	14.5	21.4	4.0	4.5	4.5	5.0	83.0	102.2
4000U	20.0	30.0	5.0	6.0	6.0	7.0	118.0	150.0
5000U	25.0	40.0	6.0	7.5	7.5	8.5	134.0	169.0

\* **Note: (A)** The above switching times of the actuator were determined under the following test conditions :  
 (1) room temperature, (2) travel range 90°, (3) solenoid valve with  $\varnothing$  4 mm and flow  $Q_n$  400L/min., (4) internal  $\varnothing$  8 mm.  
 (5) Medium: lubricated air, (6) air pressure 5.5 bar (79.95 Psi), (7) actuator without external stress.

**Attention :** The switching times may be different under different conditions of use.



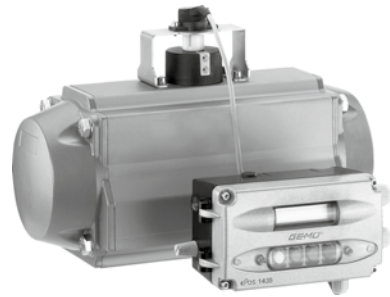
**GEMÜ 1436 cPos**  
Electro-pneumatic  
positioner and/or  
process controller



**GEMÜ SC 0150 + 1436 cPos**



**GEMÜ 1435 ePos**  
Electro-pneumatic  
positioner



**GEMÜ SC 0150 + 1435 ePos**



**GEMÜ 4221**  
Combi switchbox with  
integrated pilot valve



**GEMÜ SC 0100 + 4221**



**GEMÜ 1228**  
Electrical position  
indicator



**GEMÜ 8506**  
Solenoid Valve,  
Metal, NAMUR



**GEMÜ DP90**  
Throttle plate,  
NAMUR

## Mounting examples



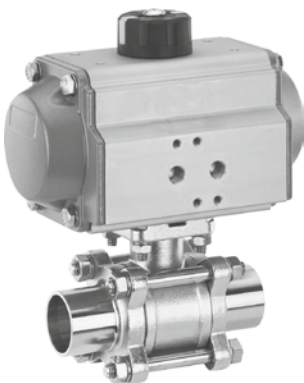
**GEMÜ 451**  
Wafer type butterfly valve,  
plastic



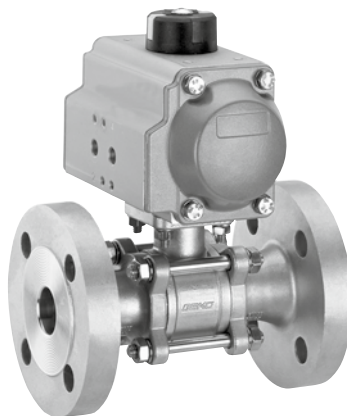
**GEMÜ 481/D481**  
Wafer type butterfly valve,  
metal



**GEMÜ 491**  
Wafer type butterfly valve,  
metal



**GEMÜ 741**  
Ball valve, metal



**GEMÜ 751**  
Ball valve, metal



**GEMÜ 761**  
Ball valve, metal

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**GEMÜ**® VALVES, MEASUREMENT  
AND CONTROL SYSTEMS

