

1155 BUTTERFLY VALVES + AP RE PNEUMATIC ACTUATOR

FEATURES

The 1155 butterfly valve is designed for the automatic opening / closing of fluid piping where high resistance to corrosion and/or temperature is required. The two-part valve body is made of GS cast iron. Wafer mounting with centring ears between PN10/16 and ANSI 150 flanges. The ISO 5211 mounting pad allows the actuator to be directly assembled. The AP RE (adjustable stops) pneumatic motorisation is available in double and spring-return with numerous options.



On request



AVAILABLE MODELS

DN 50 to DN 200.

Connection between flanges PN10/16 and ANSI 150 RF

Double and spring-return actuator.



LIMITS OF USE

Fluid pressure: PS	16 bar up to DN 150 10 bar beyond
Fluid temperature: WT	-25°C / +200°C
Ambient temperature	-15°C / +80°C
Motor compressed air	Mini 6 bar / maxi 10 bar

DIRECTIVES AND MANUFACTURING STANDARDS

OBJET	Standard	ON	OBJET	Standard
Pressure Equipment Directive 2014/68/EC	Cat. III modules H	0094	Final test	EN 10266-1
ATEX Directive	II 2G/D Tx zones 1,2,21 and 22	0038	Face-to-face dimension	ISO 5752 series 20
Construction	ISO 10631, EN 593		Actuator pilot connection	NAMUR
Body materials	EN 1503-3		Switch box connection	VDI/VDE 3845
Material certificate	EN 10204		Connection Motorisation	ISO 5211
Flange dimension	EN 1092-1		SIL 3 level (the actuator alone)	EN 61508

Information given as an indication only, and subject to possible modifications

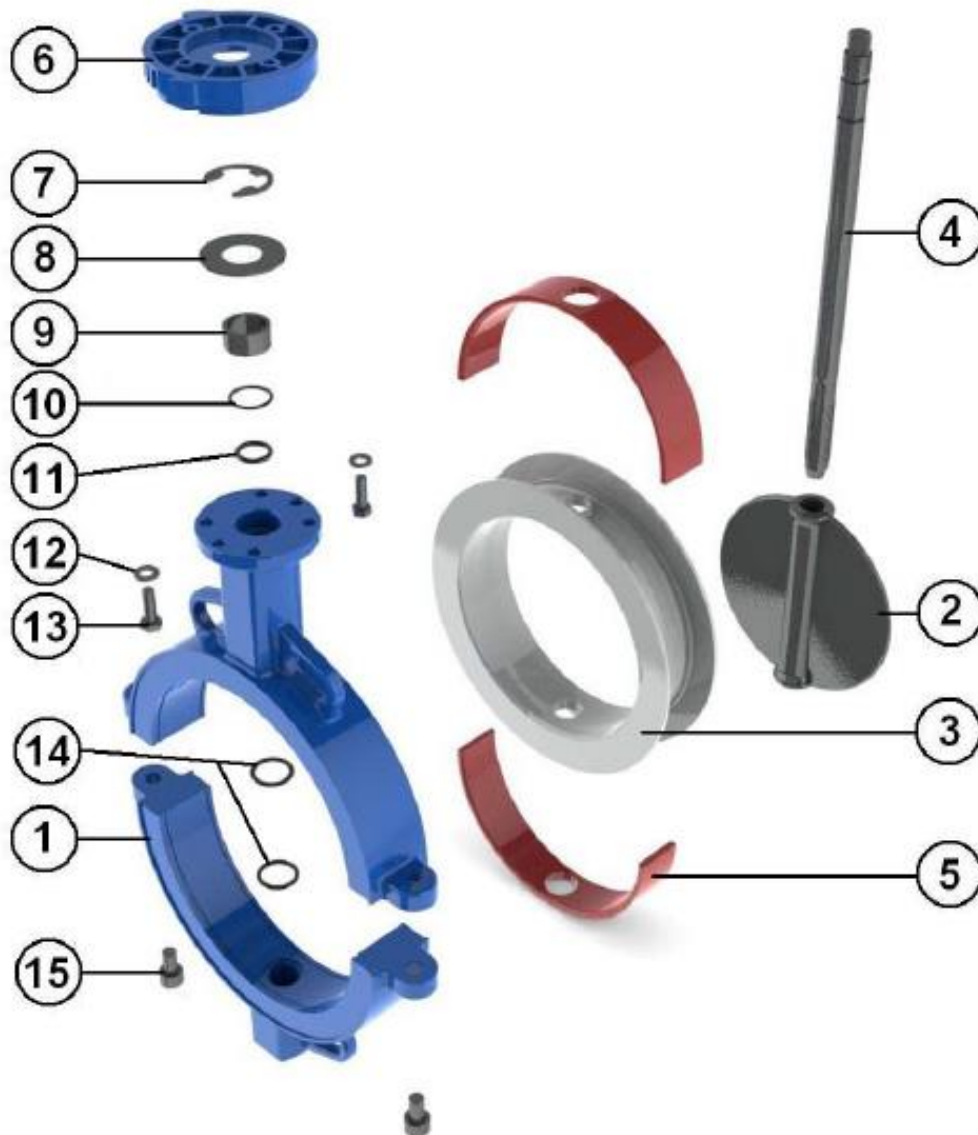


SECTORIEL S.A.
45 rue du Ruisseau
38290 SAINT QUENTIN-FALLAVIER – FRANCE
Telephone: +33 4 74 94 90 70 - Fax: +33 4 74 94 13 95
www.sectoriel.com / Email : sectoriel@sectoriel.fr

Pages	1/5
Ref.	FT1155+AP-RE ENG
Rev.	04
Date	10/2023

1155 BUTTERFLY VALVES + AP RE PNEUMATIC ACTUATOR

CONSTRUCTION



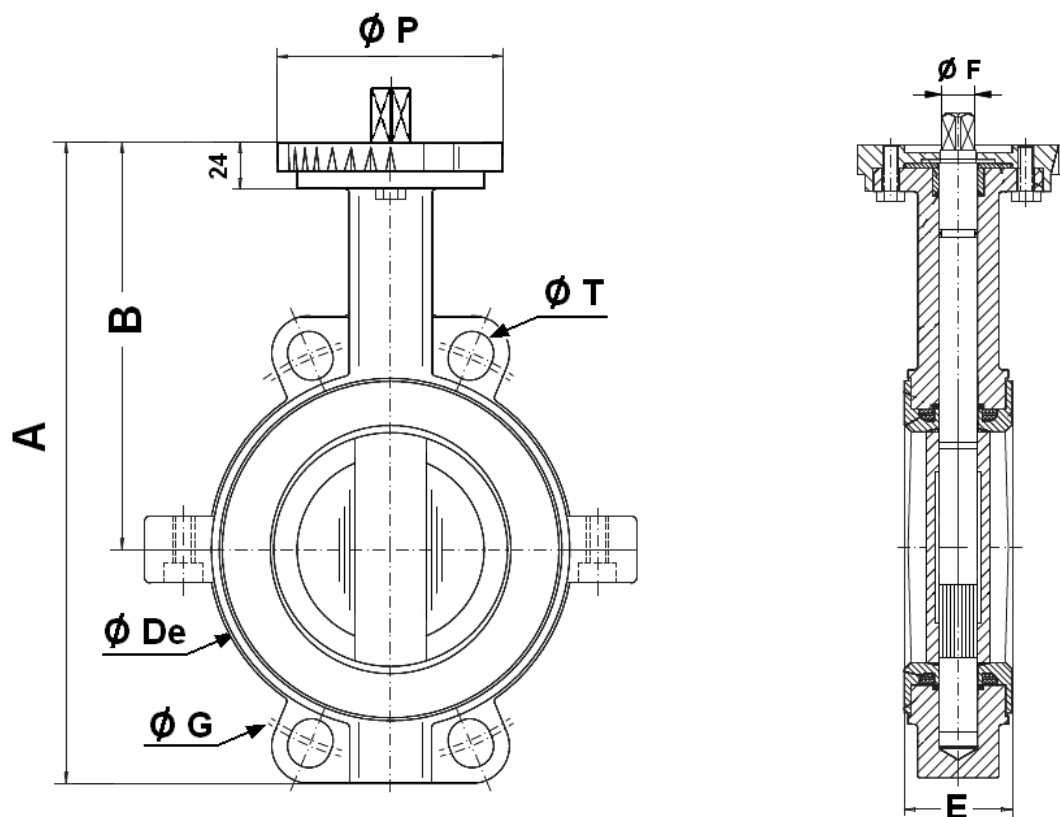
No.	Name	Material	No.	Name	Material
1	Body	GS EN GJS-500-7 cast iron	8	Ring	316 SS
2	Butterfly	PTFE-coated 1.4408 stainless steel	9	Bearing	316 SS
3	Liner	3Mm thick PTFE	10	O-ring	FPM
4	DN 50-200 stem	316 SS	11	O-ring	FPM
4	DN250-300 stem	17 4-PH (630) stainless steel	12	Washer	316 SS
5	Liner insert	Silicone	13	Mounting pad screw	A4
6	Mounting pad	Aluminium	14	O-ring	FPM
7	Circlips	316 SS	15	Body screw	A4

Information given as an indication only, and subject to possible modifications

	SECTORIEL S.A. 45 rue du Ruisseau 38290 SAINT QUENTIN-FALLAVIER – FRANCE Telephone: +33 4 74 94 90 70 - Fax: +33 4 74 94 13 95 www.sectoriel.com / Email : sectoriel@sectoriel.fr	Pages	2/5
		Ref.	FT1155+AP-RE ENG
		Rev.	04
		Date	10/2023

1155 BUTTERFLY VALVES + AP RE PNEUMATIC ACTUATOR

DIMENSIONS (mm)



DN	50	65	80	100	125	150	200	250	300
A	226	242	262	290	326	348	438	448	514
B	156	161	167	184	207	215	257	248	280
Ø De	103	117	134	150	185	205	270	320	373
E	43	46	46	52	56	56	60	68	78
Ø F	10.5	14.5	16.5	16.5	18.5	18.5	22.5	25.5	30.5
Ø G	125	145	160	180	210	240	295	350	400
Ø P	88	88	88	88	105	105	150	150	150
Ø T	18	18	18	18	18	23	23	23	23
Weight (kg)	4	4.6	5.2	6.5	9.5	10.4	16.8	31	42

Information given as an indication only, and subject to possible modifications

	SECTORIEL S.A. 45 rue du Ruisseau 38290 SAINT QUENTIN-FALLAVIER – FRANCE Telephone: +33 4 74 94 90 70 - Fax: +33 4 74 94 13 95 www.sectoriel.com / Email : sectoriel@sectoriel.fr	Pages	3/5
		Ref.	FT1155+AP-RE ENG
		Rev.	04
		Date	10/2023

1155 BUTTERFLY VALVES + AP RE PNEUMATIC ACTUATOR

FLOW-RATE COEFFICIENT Kv (m³/h)

DN	Opening Angle								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
40	3	5	10	16	22	31	36	36	36
50	3	7	15	33	44	48	54	54	54
65	6	10	21	40	57	86	102	102	102
80	7	16	37	56	84	182	246	246	246
100	9	22	51	88	134	187	255	336	336
125	21	33	91	153	232	331	468	560	560
150	45	69	149	281	302	597	822	1015	1072
200	55	131	254	420	631	904	1388	1758	1758
250	64	246	442	710	1056	1522	2128	3096	3096
300	100	275	472	953	1450	2093	2972	4193	4480

Head loss calculations :

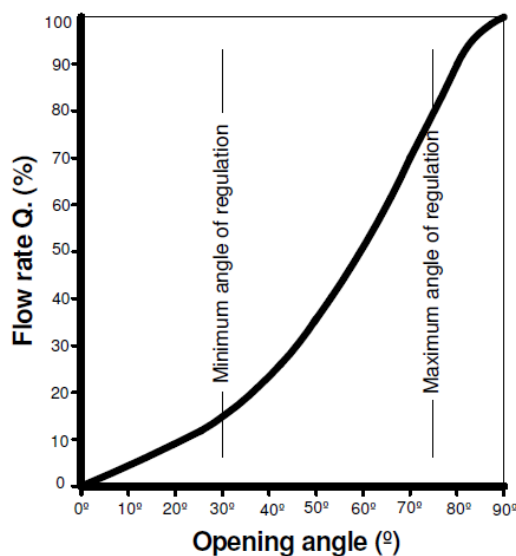
$$\Delta p = (Q / K_v)^2 \times SG$$

Q : flow in m³/h

Δp : Head loss in bar

SG : Specific gravity (= 1 for water)

Kv : Volume of water in m³/h, that will flow through a given restriction or valve opening with a pressure drop of 1 bar at 20°C.



Information given as an indication only, and subject to possible modifications

	SECTORIEL S.A. 45 rue du Ruisseau 38290 SAINT QUENTIN-FALLAVIER – FRANCE Telephone: +33 4 74 94 90 70 - Fax: +33 4 74 94 13 95 www.sectoriel.com / Email : sectoriel@sectoriel.fr		Pages	4/5
			Ref.	FT1155+AP-RE ENG
			Rev.	04
			Date	10/2023

1155 BUTTERFLY VALVES + AP RE PNEUMATIC ACTUATOR

AP RE PNEUMATIC MOTORIZATION

The ALPHAIR RE motorization proposed as standard comprises:

- rack and pinion actuator of anodised aluminium.
- a safety coefficient of 1.3 minimum compared to the nominal torque of the valve.
- air non-lubricated dry motor, minimum 6 bar pressure.
- an upstream / downstream pressure difference $\Delta P=10$ bar max.

The actuator assembly is of the following types:

- direct assembly with DN 50 to DN 200 aluminium motorization mounting pad.
- yoke + stainless steel drive according to the EN 15081 standard for DN 200 with RES.

DN	Double-effect	V (liters)	Time (s)*	Spring-return	V (liters)	Time (s)*
50	RE 64	0.45	1	RES 86/6	0.98	2
65	RE 76	0.61	1	RES 101/6	1.80	2
80	RE 76	0.98	1	RES 101/6	1.80	2
100	RE 86	0.98	2	RES 116/6	2.80	2
125	RE 86	0.98	2	RES 116/6	2.80	3
150	RE 101	1.80	2	RES 126/6	3.70	3
200	RE 116	2.80	2	RES 161/6	8.00	3

For any other operating conditions, please contact us.

*indicative time of the no-load actuator for opening or closing.

INSTALLATION IN AN ATEX ZONE

For 1155+AP RE automatic valves to be installed in ATEX 1, 2, 21 or 22 zones, this has to be specified when ordering. Our services will check of the assembly, the installation of an earthing braid, and will issue an assembly certificate. Our authorised technicians carry out these operations in the workshop. Please contact us.

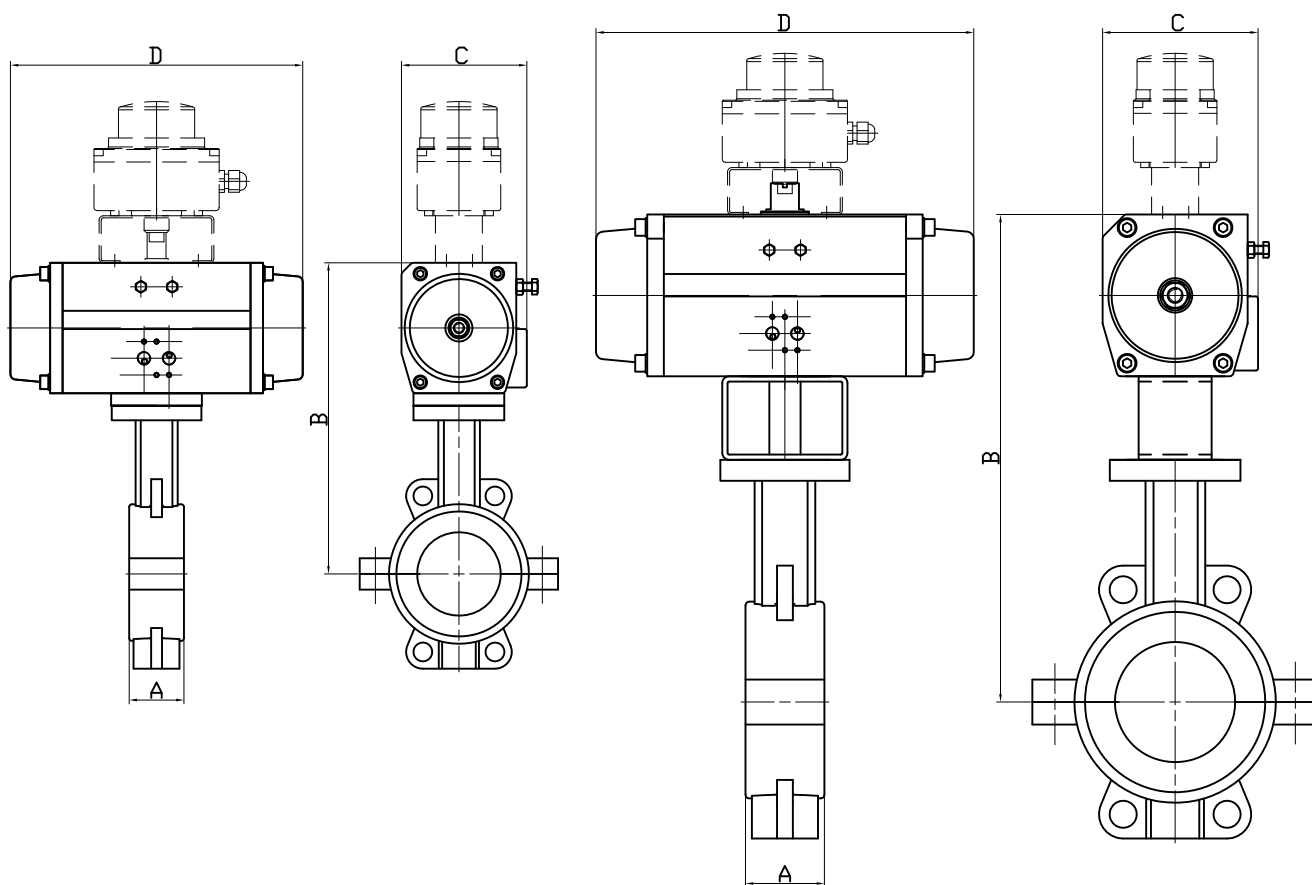
The special assembly and maintenance instructions for motorised valves in the ATEX zones must be followed.

MOTORISATION OPTIONS

1	actuators dimensioned for a compressed air pressure of 3, 4 or 5 bar	
2	actuator dimensioned for an upstream / downstream pressure difference ΔP greater than 10 bar	
3	actuator with special coatings, stainless steel actuator	
4	Actuator for very low (-60°C) or very high ($+150^{\circ}\text{C}$) ambient temperatures.	
5	manual override with declutchable gear box	
6	compressed air filter regulator	
7	All types of piloting solenoid valves	
8	all types of switch boxes	
9	all types of positioner	
10	rapid exhaust, flow-rate limiters - exhaust brakes	

Information given as an indication only, and subject to possible modifications

	SECTORIEL S.A. 45 rue du Ruisseau 38290 SAINT QUENTIN-FALLAVIER – FRANCE Telephone: +33 4 74 94 90 70 - Fax: +33 4 74 94 13 95 www.sectoriel.com / Email : sectoriel@sectoriel.fr	Pages	5/5
		Ref.	FT1155+AP-RE ENG
		Rev.	04
		Date	10/2023



DN	50		65		80		100		125		150		200	
ALPHAIR	64 RE	86 RES	76 RE	101RES	76 RE	101RES	86 RE	116RES	86 RE	116RES	101 RE	126RES	116 RE	161RES
A	43		46		46		52		56		56		60	
B	242	268	263	288	269	294	296	330	319	353	342	373	403	533*
C	86	104	94	120	94	120	104	134	104	134	120	145	134	182
D	155	239	203	261	203	261	239	304	239	304	261	333	304	424
KG	5.7	8.7	7.5	11.3	8.1	11.9	10.2	16.5	13.6	19.5	16.2	23.3	25.4	41

*:Montage avec platine H=80

Informations données à titre indicatif et sous réserve de modifications éventuelles
data subject to alteration

Data subject to alteration

Ech: /	Date :02/03/2017	Dessiné par : E.D	Tolérances générales : +/- 0.2	Modifications	Date	REV.
ROBINET A PAPILLON 1155 + ACTIONNEUR ALPHAIR RE/BUTTERFLY VALVE 1155 + PNEUMATIC ACTUATOR ALPHAIR RE				Matière :		
				Poids (Kg) :		
 45, Rue du Ruisseau 38297 SAINT QUENTIN FALLAVIER				Traitement : SANS		
				Plan n° Ens 1278		



RE SERIES

**PNEUMATIC ACTUATORS
WITH EXTERNAL ADJUSTMENT**

ROTATION 90°



English edition



Alphaair



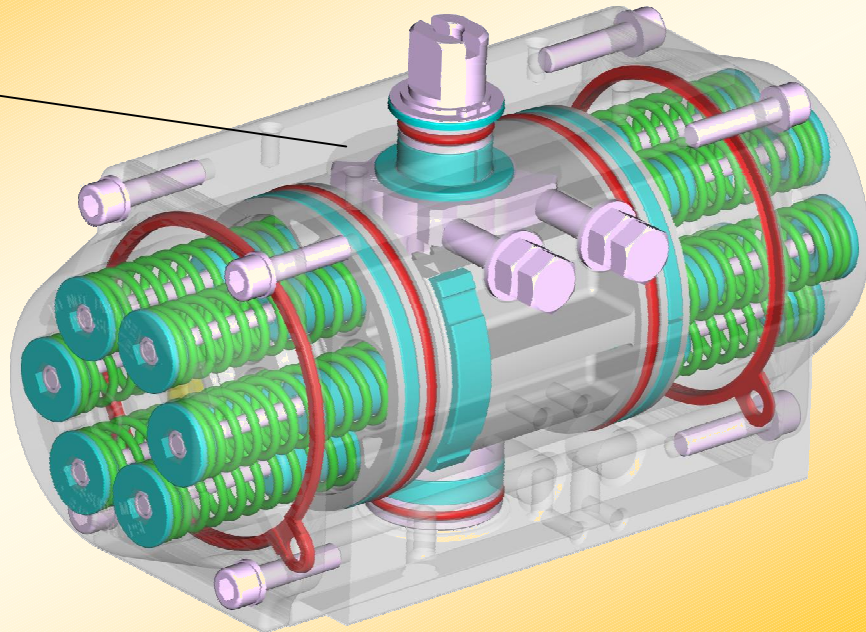
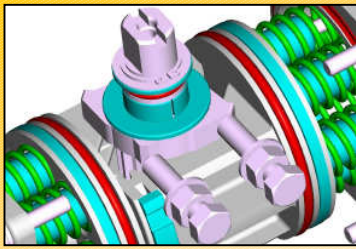
Distributed in FRANCE by
SECTORIEL

2017

ALPHAIR PNEUMATIC ACTUATORS

EXTERNAL ADJUSTMENT

New "RE" SERIES



The new series of ALPHAIR Pneumatic Actuators with special "External Adjustment" system meets every quality and precision requirement.

The new "External Adjustment" system guarantees maximum precision on rotation adjusting, for normal and heavy conditions, in any application field.

Suitable for every requirement, ALPHAIR Pneumatic Actuators with special "External Adjustment" system are carefully designed for maximum torque rating and maximum lifetime.

More compact, heavy and reliable, ALPHAIR Pneumatic Actuators with special "External Adjustment" system can be easily assembled on every kind of valve.

STANDARD VERSION FEATURES

- **EN AW 6063 extruded aluminium Body**, inside surface finishing Ra= 0,4-0,6. 25 µ Hard Anodizing.
- **EN AB 46100 die-cast aluminium alloy Pistons**, 15 micron Anodizing.
- **EN AB 46100 die-cast aluminium alloy Covers**, painted with 60-80 µ polyester powder.
- **Carbon steel Shaft**, 20 µ nickel-plated. Stainless Steel AISI 304 (A2) or AISI 316 (A4) as Optional.
- **External adjusting gear, made of Stainless Steel AISI 316 (A4).**
- **AISI 316 (A4) Stainless Steel Screws.**
- **NBR nitrile rubber seals.** FPM/FKM or SILICONE on request.
- Acetalic resin + 20% PTFE bearings, for low friction, easily replaceable for maintenance. PA66 or LEXAN on request.
- Pre-compressed Spring Cartridges, easily replaceable for maintenance, 60-80 micron polyester painted.
- High performances Syntetic Grease as standard grease. Special grease supplied for HIGH/LOW/VERY LOW temperatures.
- Several special protections available for chemical, pharmaceutical, food and industrial environments.
- Rotation adjustment $\pm 5^\circ$ in both opening and closing position. Assembly precision $\pm 1^\circ$, made by electronic devices.
- Double lower drilling for valve fastening and centering, according to ISO 5211-DIN 3337 Standards.
- Double square lower female shaft key (starlike), according to ISO 5211-DIN 3337 Standards for assembly on valves with square key on line (0°) and diagonal key (45°).
- Solenoid connections according to NAMUR VDI/VDE-3845 Standards.
- Top drilling for accessories fastening, and upper shaft end according to NAMUR VDI/VDE-3845 Standards.
- Position indicator on request, enabling switch-box assembly on top.
- Aluminium adhesive nameplates, with progressive serial number punched.
- Lubrication carried out by the manufacturer, guaranteed for min. 1.000.000 operations.
- Running test and 100% seal test carried out with electronic equipment and certification of every individual product.
- Standard execution for temperatures from -20°C to $+80^\circ\text{C}$ (optional, special execution for extreme temperatures).
- Conformity for use in explosive environment; Ex II 2 GD "c" protection type.
- According to EN 15714-3 design and manufacture standard requirements.

FEEDING	TEMPERATURE RANGE	SUPPLY PRESSURE	ROT. ADJUSTMENT
Dry or lubricated 50 um filtered compressed air	Standard $-20^\circ +80^\circ\text{C}$ ($-4 +175^\circ\text{F}$) HIGH Temperature $-20^\circ +150^\circ\text{C}$ ($-4 +300^\circ\text{F}$) LOW Temperature $-40^\circ +80^\circ\text{C}$ ($-40 +175^\circ\text{F}$) VERY LOW Temperature $-60^\circ +80^\circ\text{C}$ ($-76 +175^\circ\text{F}$)	8 bar/120 psi Continuous working - 10 bar/142 psi MAXIMUM	$\pm 5^\circ$ in both OPENING and CLOSING position

DOUBLE ACTING TORQUES IN Nm

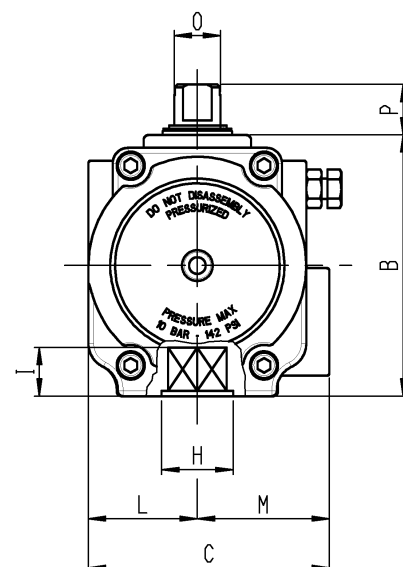
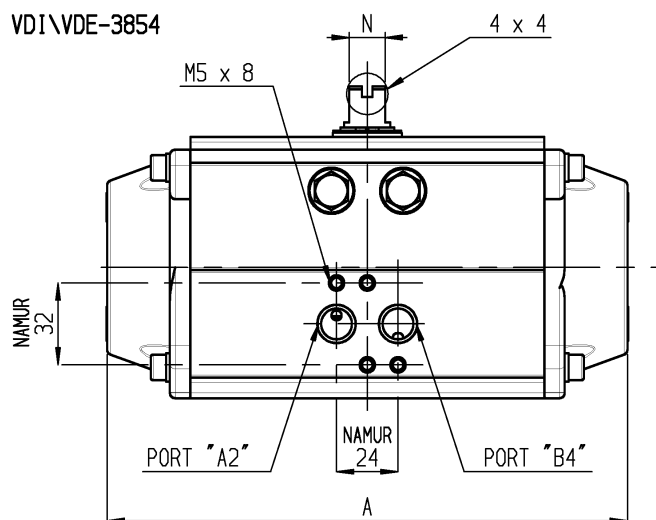
TYPE	AIR SUPPLY PRESSURE (bar)									
	1	2	3	4	5	6	7	8	9	10
RE 043	-	-	6,5	8,7	10,9	13,0	15,2	17,3	19,5	21,7
RE 051	3,3	6,7	10,0	13,4	16,7	20,1	23,4	26,8	30,1	33,5
RE 064	5,9	11,8	17,8	23,7	29,6	35,5	41,4	47,4	53,3	59,2
RE 076	11,8	23,5	35,3	47,1	58,9	70,6	82,4	94,2	105,9	117,7
RE 086	17,2	34,5	51,7	68,9	86,1	103,4	120,6	137,8	155,0	172,3
RE 101	27,5	54,9	82,4	109,8	137,3	164,8	192,2	219,7	247,1	274,6
RE 116	43,7	87,4	131,1	174,9	218,6	262,3	306,0	349,7	393,4	437,1
RE 126	56,6	113,3	169,9	226,5	283,2	339,8	396,4	453,0	509,7	566,3
RE 146	88,4	176,7	265,1	353,4	441,8	530,1	618,5	706,9	795,2	883,6
RE 161	114,9	229,7	344,6	459,5	574,3	689,2	804,1	918,9	1034	1149
RE 181	156,6	313,1	469,7	626,3	782,9	939,4	1096	1253	1409	1565
RE 201	215,3	430,6	646,0	861,3	1077	1292	1507	1723	1938	2153
RE 241	372,5	745,0	1118	1490	1863	2235	2608	2980	3353	3725
RE 271	539,2	1078	1617	2157	2696	3235	3774	4314	4853	5392
RE 331	911,5	1823	2734	3646	4558	5469	6385	7292	8204	9115
RE 421	1671	3342	5013	6684	8354	10025	11696	13367	-	-

SINGLE ACTING TORQUES IN Nm

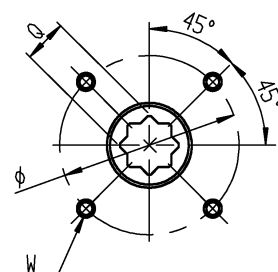
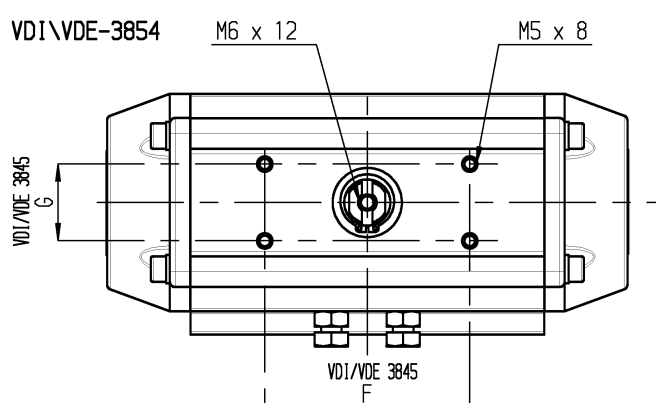
TYPE	SPRING SET	AIR SUPPLY PRESSURE (bar)												SPRING TORQUE	
		3		4		5		6		7		8			
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°
RE 043	SR 3/3	-	-	-	-	7,1	4,1	9,3	6,3	11,5	8,5	13,7	10,7	6,8	3,8
	SR 4/4	-	-	-	-	7,1	4,1	8,1	4,1	10,2	6,2	12,4	8,4	9,0	5,0
RE 051	SR 3/3	5,8	4,3	9,1	7,6	12,5	10,9	15,8	14,3	19,2	17,6	22,5	21,0	5,8	4,3
	SR 4/4	4,4	2,3	7,8	5,7	11,1	9,0	14,4	12,3	17,8	15,7	21,1	19,0	7,8	5,7
	SR 5/5			6,3	3,7	9,7	7,1	13,0	10,4	16,4	13,8	19,7	17,1	9,7	7,1
	SR 6/6					8,2	5,1	11,6	8,5	14,9	11,8	18,3	15,2	11,6	8,5
RE 064	SR 3/3	10,7	7,1	16,6	13,0	22,5	18,9	28,5	24,8	34,4	30,8	40,3	36,7	10,7	7,1
	SR 4/4	8,4	3,5	14,3	9,4	20,2	15,4	26,1	21,3	32,0	27,2	38,0	33,1	14,3	9,4
	SR 5/5			11,9	5,9	17,8	11,8	23,8	17,7	29,7	23,6	35,6	29,6	17,8	11,8
	SR 6/6					15,5	8,2	21,4	14,1	27,3	20,1	33,2	26,0	21,4	14,1
RE 076	SR 3/3	21,1	14,3	32,8	26,0	44,6	37,8	56,4	49,6	68,1	61,3	79,9	73,1	21,1	14,3
	SR 4/4	16,3	7,2	28,1	19,0	39,8	30,8	51,6	42,5	63,4	54,3	75,2	66,1	28,1	19,0
	SR 5/5			23,3	12,0	35,1	23,8	46,9	35,5	58,6	47,3	70,4	59,1	35,1	23,8
	SR 6/6					30,3	16,7	42,1	28,5	53,9	40,3	65,6	52,0	42,1	28,5
RE 086	SR 3/3	33,8	17,8	51,1	35,1	68,3	52,3	85,5	69,5	102,7	86,7	120,0	104,0	33,8	17,8
	SR 4/4	27,9	6,6	45,1	23,8	62,3	41,0	79,6	58,2	96,8	75,5	114,0	92,7	45,1	23,8
	SR 5/5			39,2	12,5	56,4	29,7	73,6	47,0	90,8	64,2	108,1	81,4	56,4	29,7
	SR 6/6					50,4	18,5	67,7	35,7	84,9	52,9	102,1	70,1	67,7	35,7
RE 101	SR 3/3	50,1	32,3	77,5	59,7	105,0	87,2	132,5	114,7	159,9	142,1	187,4	169,6	50,1	32,3
	SR 4/4	39,3	15,6	66,8	43,0	94,2	70,5	121,7	98,0	149,2	125,4	176,6	152,9	66,8	43,1
	SR 5/5			56,0	26,4	83,5	53,8	110,9	81,3	138,4	108,7	165,9	136,2	83,5	53,8
	SR 6/6					72,7	37,1	100,2	64,6	127,6	92,0	155,1	119,5	100,2	64,6
RE 116	SR 3/3	80,7	50,5	124,4	94,2	168,1	137,9	211,8	181,6	255,5	225,3	299,3	269,0	80,7	50,5
	SR 4/4	63,9	23,5	107,6	67,3	151,3	111,0	195,0	154,7	238,7	198,4	282,4	242,1	107,6	67,3
	SR 5/5			90,8	40,4	134,5	84,1	178,2	127,8	221,9	171,5	265,6	215,2	134,5	84,1
	SR 6/6					117,7	57,2	161,4	100,9	205,1	144,6	248,8	188,3	161,4	100,9
RE 126	SR 3/3	105,0	64,9	161,6	121,5	218,2	178,2	274,9	234,8	331,6	291,4	388,1	348,0	105,0	64,9
	SR 4/4	83,3	29,9	140,0	86,5	196,6	143,2	253,2	199,8	309,9	256,4	366,5	313,0	140,0	86,6
	SR 5/5			118,3	51,5	175,0	108,2	231,6	164,8	288,2	221,4	344,8	278,1	175,0	108,2
	SR 6/6					153,3	73,2	210,0	129,8	266,6	186,4	323,2	243,1	210,0	129,8
RE 146	SR 3/3	162,5	102,6	250,8	190,9	339,2	279,3	427,5	367,7	515,9	456,0	604,3	544,4	162,5	102,6
	SR 4/4	128,3	48,4	216,6	136,8	305,0	225,1	393,3	313,5	481,7	401,9	570,1	490,2	216,6	136,8
	SR 5/5			182,4	82,6	270,8	171,0	359,1	259,3	447,5	347,7	535,9	436,0	270,8	171,0
	SR 6/6					236,6	116,8	324,9	205,2	413,3	293,5	501,7	381,9	325,0	205,2
RE 161	SR 3/3	202,7	141,9	317,5	256,8	432,4	371,6	547,3	486,5	662,1	601,4	777,0	716,2	202,7	141,9
	SR 4/4	155,3	74,3	270,2	189,2	385,1	304,1	499,9	418,9	614,8	533,8	729,7	648,7	270,2	189,2
	SR 5/5			222,9	121,6	337,8	236,5	452,6	351,4	567,5	466,2	682,4	581,1	337,8	236,5
	SR 6/6					290,4	168,9	405,3	283,8	520,2	398,6	635,0	513,5	405,3	283,8
RE 181	SR 3/3	281,6	188,2	438,1	344,7	594,7	501,3	751,3	657,9	907,8	814,5	1064	971,0	281,6	188,2
	SR 4/4	218,8	94,3	375,4	250,9	532,0	407,5	688,5	564,0	845,1	720,6	1002	877,2	375,4	250,9
	SR 5/5			312,7	157,0	469,3	313,6	625,8	470,2	782,4	626,8	939,0	783,3	469,3	313,6
	SR 6/6					406,5	219,8	563,1	376,3	719,7	532,9	876,2	689,5	563,1	376,3
RE 201	SR 3/3	386,2	259,8	601,5	475,13	816,8	690,5	1032	905,8	1247	1121	1436	1336	386,2	259,8
	SR 4/4	299,6	131,1	514,9	46,4	730,2	561,8	945,5	777,1	1160	992,4	1376	1208	514,9	346,4
	SR 5/5			428,3	217,7	643,6	433,0	858,9	648,4	1074	863,7	1290	1079	643,6	433,0
	SR 6/6					557,0	304,3	772,3	519,6	987,6	735,0	1203	950,3	772,3	519,6
RE 241	SR 3/3	664,0	453,6	1037	826,2	1409	1199	1782	1571	2154	1944	2527	2316	664,0	453,6
	SR 4/4	521,8	232,3	885,4	604,8	1258	977,4	1630	1350	2003	1722	2376	2095	885,4	604,8
	SR 5/5			734,2	383,5	1107	756,0	1479	1129	1852	1501	2224	1874	1107	756,0
	SR 6/6					955,5	534,7	1328	907,2	1701	1280	2073	1653	1328	907,2
RE 271	SR 3/3	912,5	705,1	1452	1244	1991	1783	2530	2323	3069	2862	3608	3401	912,5	705,1
	SR 4/4	677,5	400,8	1217	940,2	1756	1479	2295	2019	2834	2558	3373	3097	1217	940,1
	SR 5/5			981,7	635,8	1521	1175	2060	1714	2599	2144	3138	2793	1521	1175
	SR 6/6					1286	871,0	1825	1410	2364	1954	2903	2489	1825	1410
RE 331	SR 3/3	1626	1108	2538	2020	3450	2931	4361	3843	5273	4755	6184	5666	1626	1108
	SR 4/4	1257	565,8	2168	1477	3080	2389	3992	3301	4903	4212	5815	5123	2168	1477
	SR 5/5			1799	935,2	2711	1847	3622	2759	4534	3670	5445	4582	2711	1847
	SR 6/6					2341	1305	3253	2216	4165	3128	5076	4040	3253	2216
RE 421	SR 3/3	2999	2014	4670	3685	6340	5356	8011	7026	9682	8697	11353	10368	2999	2014
	SR 4/4	2327	1014	3998	2685	5669	4356	7340	6027	9011	7698	9369	8369	3998	2685
	SR 5/5			3327	1685	4998	3356	6669	5027	8340	6698	8369	8369	4998	3356
	SR 6/6					4327	2357	5997	4028	7668	5698	7369	7369	5997	4028
Torque by air														Torque by springs	

DIMENSIONS – European Sizes in millimetres

VDI/VDE-3854



VDI/VDE-3854

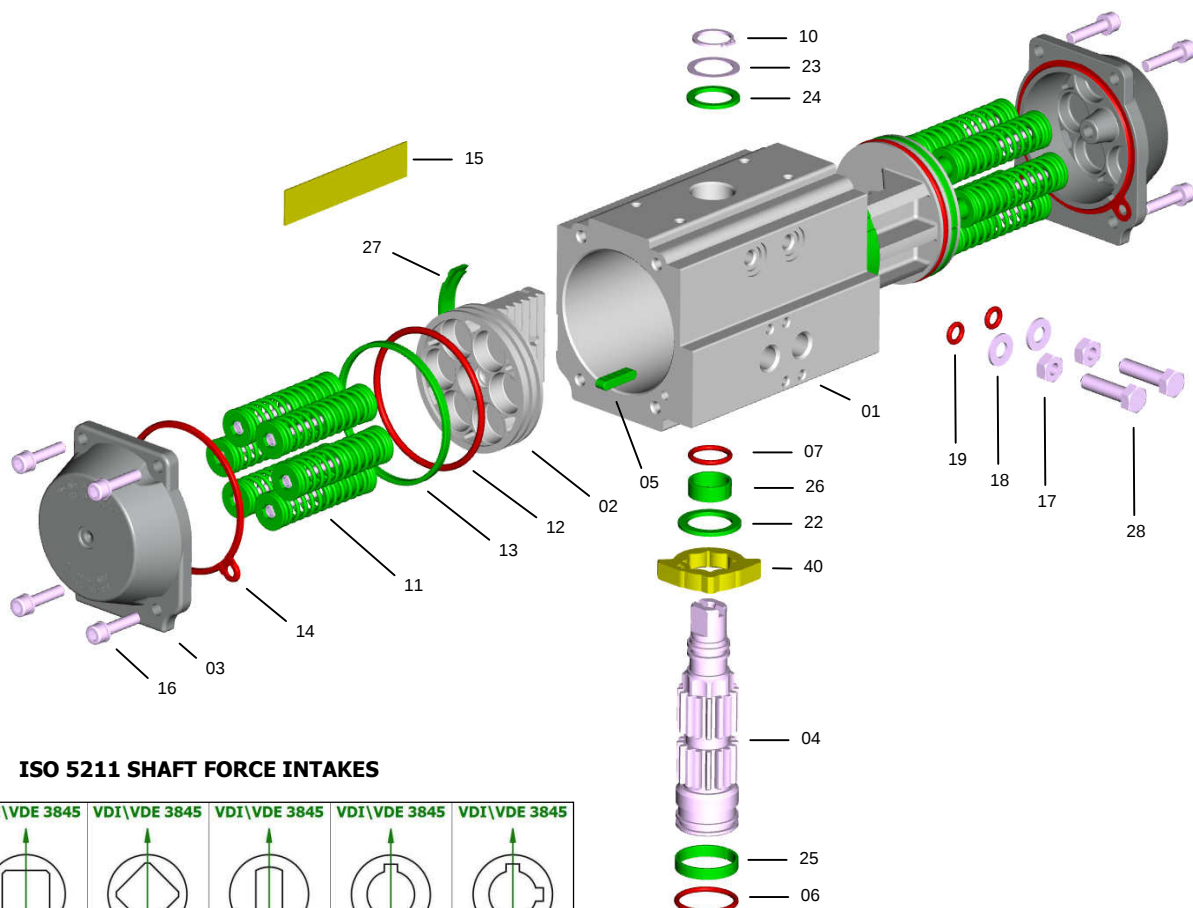


F ISO 5211

POSITION	TYPE																
	RE 043	RE 051	RE 064	RE 076	RE 086	RE 101	RE 116	RE 126	RE 146	RE 161	RE 181	RE 201	RE 241	RE 271	RE 331	RE 421	
A	141	138	155	203	239	261	304	333	398	424	482	528	604	684	850	940	
B	62	69	86	102	112	127	145,5	157,5	177	196	220	246	298	332	414	542	
C	63,5	75	86	94	104	120	133,5	144,5	164,5	182	203,5	222	300	352	400	528	
VDI/VDE 3845 F x G	80 x 30 50 x 25	80 x 30					80 x 30 130 x 30		130 x 30							200 x 50	
L	27	33,5	38	42,5	49	55	63,5	69,5	80,5	89	99,5	110	150	176	190	234	
M	36,5	41,5	48	51,5	55	65	70	75	84	93	104	112	150	176	210	294	
Port A Port B DIN 259	1/8" GAS-NPT		1/4" GAS-NPT										1/2" GAS-NPT				
N x O	8 x 12			14 x 18			27 x 36				32 x 42		42 x 60	55 x 80			
P	20						30			50							80
Q x I	9 x 10 11 x 13	9 x 10 11 x 13	9 x 10 11 x 13 14 x 16	11 x 13 14 x 16 17 x 20	14 x 16 17 x 20	14 x 16 17 x 20 22 x 25	17 x 20 22 x 25	17 x 20 22 x 25 27 x 29	22 x 25 27 x 29	22 x 25 27 x 29	27 x 29 36 x 39	27 x 29 36 x 39	36 x 39 46 x 50	36 x 39 46 x 50	*46 x 50 55 x 60	*55 x 60 75 x 80	
F ISO 5211	F04	F04	F05/07	F05/07	F05/07	F07/10	F07/10	F07/10	F10/12	F10/12	F10/12	F14	F14	F16	F16/25	F25/30	
Optional	F03/05	F03/05	F3/5/7			F5/7/10		F7/10/12			F14	F10/12	F(12)/16	F(12)/16		F(16)	
Volume DE	0,180 lt	0,300 lt	0,500 lt	0,700 lt	1,000 lt	1,800 l	2,900 lt	3,700 lt	6,100 lt	7,900 lt	11,2 lt	14,4 lt	19,2 lt	32,2 lt	62,8 lt	131 lt	
Volume SE	0,072 lt	0,120 lt	0,200 lt	0,280 lt	0,400 lt	0,720 l	1,160 lt	1,480 lt	2,440 lt	3,160 lt	4,480 lt	5,760 lt	7,680 lt	12,9 lt	25,1 lt	52,4 lt	

POSITION	F ISO 5211											
	F03	F04	F03/05	F05	F05/07	F5/7/10	F07/10	F10/12	F14	F16	F25	F30
Ø (W)	Ø 36 (M5x8)	Ø 42 (M5x8)	Ø 36 (M5x8) Ø 50 (M6x9)	Ø 50 (M6x9)	Ø 50 (M6x9) Ø 70 (M8x12)	Ø 50 (M6x9) Ø 70 (M8x12) Ø 102 (M10x15)	Ø 70 (M8x12) Ø 102 (M10x15)	Ø 102 (M10x15) Ø 125 (M12x18)	Ø 140 (M16x24)	Ø 165 (M20x30)	Ø 254 (M16x24) N°8 FORI	Ø 298 (M20x35) N°8 FORI
H	25	30	25	35	35 (RE 086=40)	40	55	85 (RE 161=75)	100	130	200	200

CONSTRUCTION PARTS – SPECIFICATIONS



ISO 5211 SHAFT FORCE INTAKES

VDI\UDE 3845	VDI\UDE 3845	VDI\UDE 3845	VDI\UDE 3845	VDI\UDE 3845	VDI\UDE 3845
STANDARD ALPHAIR S = L\D	L	D	H	V	W

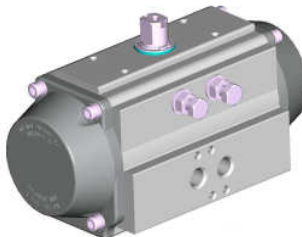
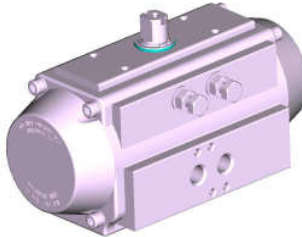
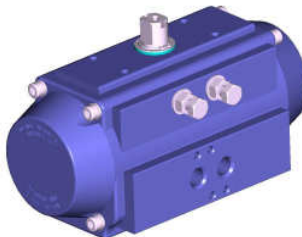
PART	QUANTITY	DESCRIPTION	MATERIAL	SPECIFICATION	PROTECTION
1	1	Body	Extruded aluminium alloy	EN AW 6063 T6	A - N - TF
2	2	Piston	Aluminium alloy	EN AB 46100 T6	A
3	2	Cover	Aluminium alloy	EN AB 46100 T6	N - V - TF
4	1	Shaft	Carbon steel Stainless Steel – optional	ASTM A-105 AISI 304 (A2) AISI 316 (A4)	N
5 *	2	Antiejection key	Acetalic resin – PA66 – PA66 – LEXAN		
6 *	1	Lower shaft O-Ring	NBR – FPM\FKM – Silicone – Silicone		
7 *	1	Upper shaft O-Ring	NBR – FPM\FKM – Silicone – Silicone		
10 *	1	Seeger ring	Carbon steel		N
11	0 ... 12	Spring cartridge	Carbon steel, PA 66, Stainless Steel	C-98	V
12 *	2	Piston O-Ring	NBR – FPM\FKM – Silicone – Silicone		
13 *	2	Piston head bearing	Acetalic resin – PA66 – PA66 – LEXAN		
14 *	2	Cover gasket	NBR – FPM\FKM – Silicone – Silicone		
15	1	Nameplate	Aluminium		
16	4 + 4	Cover fastening screw	Stainless Steel	AISI 304 (A2)	
17	2	Nut	Stainless Steel	AISI 304 (A2)	
18	2	Washer	Stainless Steel	AISI 304 (A2)	
19 *	2	O-Ring	NBR – FPM\FKM – Silicone – Silicone		
22 *	1	Gear antifriction washer	Acetalic resin – PA66 – PA66 – LEXAN		
23 *	1	Shaft thrust washer	Stainless Steel	AISI 304 (A2)	
24 *	1	Shaft antifriction washer	Acetalic resin – PA66 – PA66 – LEXAN		
25 *	1	Lower shaft pilot ring	Acetalic resin – PA66 – PA66 – LEXAN		
26 *	1	Upper shaft pilot ring	Acetalic resin – PA66 – PA66 – LEXAN		
27 *	2	Piston bearing	Acetalic resin – PA66 – PA66 – LEXAN		
28	2	Adjusting gear screw	Stainless Steel	AISI 304 (A2)	
40	1	Adjusting gear	Stainless Steel	AISI 316 (A4)	

* SPARE PARTS SET: Standard, Special HIGH Temperatures, Special LOW Temperatures, Special EXTRA LOW Temperatures

PROTECTIONS

A = Anodizing N = chemical Nickel-plating V = Painting TF = Anodizing+PTFE

COATINGS – MATERIAL TREATMENTS

		DESCRIPTION				APPLICATION FIELD
		Body	Covers	Pistons	Shaft	
	AV					
	standard	Anodizing	Polyester painting	Anodizing	High phosphorous nickel-plating (12%) opt. AISI 304 (A2) opt. AISI 316 (A4)	- Industry, general use.
	Colour	Gray	Gray	Brown	Polished steel	
	Thickness	25 µ	60/80 µ	15 µ	20 µ	
	NN	DESCRIPTION				APPLICATION FIELD
		Body	Covers	Pistons	Shaft	
		High phosphorous nickel-plating (12%)	High phosphorous nickel-plating (12%)	Anodizing	High phosphorous nickel-plating (12%) opt. AISI 304 (A2) opt. AISI 316 (A4)	
		Polished steel	Polished steel	Brown	Polished steel	
	Thickness	20 µ	20 µ	15 µ	20 µ	
	TF TF	DESCRIPTION				APPLICATION FIELD
		Body	Covers	Pistons	Shaft	
		Anodizing + PTFE coating	Anodizing + PTFE coating	Anodizing	High phosphorous nickel-plating (12%) opt. AISI 304 (A2) opt. AISI 316 (A4)	
		Blue	Blue	Brown	Polished steel	
	Thickness	Anodizing 25 µ PTFE 15 µ	Anodizing 15 µ PTFE 15 µ	15 µ	20 µ	

ANODIZING

Anodizing is an electrolytic process that produces anodic coating on aluminum, called alumine, with high thickness. Alumine is one of the most hard known materials, with resistance values up to 400-600 HV (45-65 HRC); properties and features of Anodizing (alumine thickness 25 micron) are well known and appreciated both for mechanical and chemical resistance.

- **Best friction and corrosion resistance, best surface hardness, good thermic and electrical insulation.**

ELECTROLESS NICKEL-PLATING

Chemical nickel-plating is an electroless coating process that gives nickel layers at extremely constant thickness also on sharp angles, blind-holes, threads and grooves recess. During the process, nickel is combined with phosphor at a percentage of 12% (high-phosphor). The obtained surface hardness is about 400-480 HV (45-55 HRC).

- **Best friction and corrosion resistance, best surface hardness, best external appearance similar to S.S., increased resistance to alkali and detergents in sanitary and food applications.**

POLYESTER PAINTING

Polyester painting is obtained through powder coatings on polarized parts, by means of light differences in electrical potentials. After applications, parts are baked in order to polymerize and let the painting be spread to avoid micro-porosity. The best elasticity can be obtained at 60/80 micron thickness; a satisfactory adhesion can be assured by sandblasting or brushing, and by special degreasing baths of the rough pieces to be treated.

- **Better corrosion resistance, protection against crashes, better external appearance and several available colours, resistance to chemicals.**

ANODIZING + PTFE COATING

As further improvement of the hard anodising treatment on aluminium alloys, protective coatings made of PTFE are used; this material is known for its particular chemical and physical features. On these double treated surfaces, oxide hardness and low roughness (internal slipping parts) is summed to the chemical resistance and the excellent qualities as a thermic barrier of PTFE (external surface, subject to corrosion).

- **Better corrosion resistance, protection against high temperatures and crashes, extreme resistance to chemicals and in marine environments.**

AISI 304 (A2) OR AISI 316 (A4) STAINLESS STEEL SHAFT - OPTIONAL

AISI 304 (A2) and AISI 316 (A4) Stainless Steel shafts, with their great corrosion resistance, are recommended for special applications such as: marine and chemical environments, food and pharmaceutical industry, high temperature applications.



Via Molino Emili, 16 - 25030 MACLODIO (BS) Italy - Tel. +39 030 97 86 61/2- Fax +39 030 97 86 63
www.alphair.it - www.alphapompe.it

Tous droits réservés - Annule et remplace toutes les versions précédentes - Les données sont sujettes à changement sans préavis - Non garantie l'exactitude

COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV GL
= ISO 9001 =

