



Electric Actuated Lugged & Tapped Butterfly Valve – Viton (FKM) Liner

- Fully Lugged and Tapped
- Powerful Electric Actuator (IP67)
- 2" - 12" PN16 Flanges
- Epoxy Coated Ductile Iron Body
- Stainless Steel Disc
- Manual Override, Various Voltages

> Description

A Viton (FKM) rubber lined, resilient seated fully lugged and tapped butterfly valve fitted with a powerful electric actuator for open and closed isolation duty. The valve is suitable to fit between PN16 flanges and rated PN16. Offered up to 12" (larger sizes on request) the valve is ideally suited for "End of Line Duty". The valve is epoxy coated ductile iron, has 316 stainless steel disc and Viton (FKM) liner. The electric actuator has options for various voltages, in addition it is supplied with anti-condensation heaters, limit and feedback switches, manual handwheel override and position indicator all housed in an epoxy coated IP67 weatherproof enclosure.

> Technical Information

Complies with 97/23/CE (PED) Directive CE 1115
 Temperature - 10°C – 120°C
 Pressure Rating PN16
 Sizes from 2" - 12"
 PN16 Flanges.

Description

A combination of a Viton Lined butterfly valve fitted to a powerful electric actuator, complying with 97/23/CE (PED) Directive CE1115. Easy to install and offers long and trouble free life. Rated PN16, Lugged and Tapped with stainless steel disc.

Beschreibung

Eine Kombination aus einer Absperrklappe mit FKM-Auskleidung, die an einem leistungsstarken elektrischen Stellantrieb angebracht ist und der Richtlinie 97/23/CE (PED) CE1115 entspricht. Einfach zu installieren und bietet eine lange und störungsfreie Lebensdauer. Bewertet mit PN16, gemufft und mit Edelstahlscheibe.

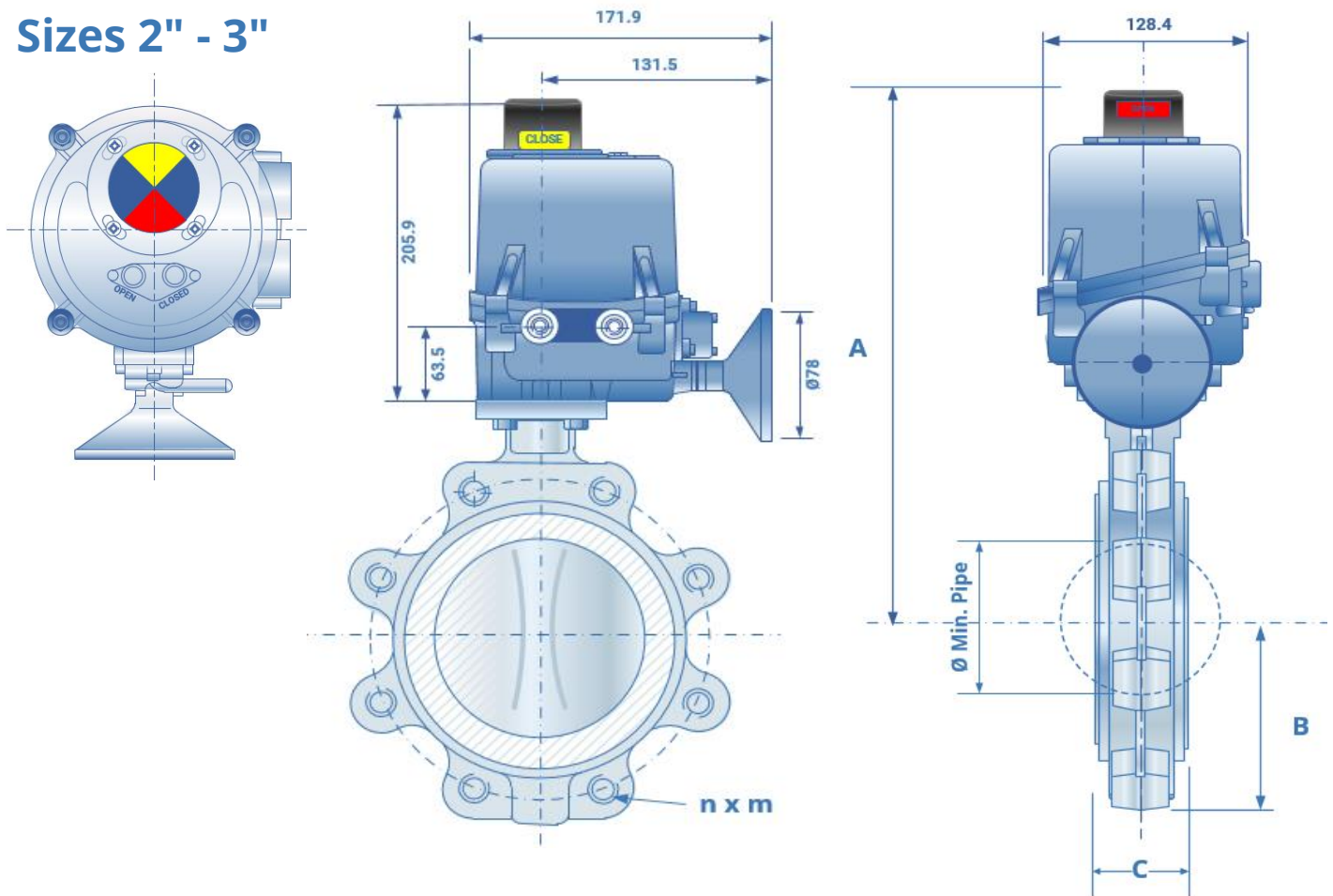
Descripción

Una combinación de una válvula de mariposa revestida de FKM instalada en un potente actuador eléctrico, que cumple con la Directiva 97/23/CE (PED) CE1115. Fácil de instalar y ofrece una vida útil prolongada y sin problemas. Clasificado PN16, con orejas y roscado con disco de acero inoxidable.

Description

Une combinaison d'une vanne papillon revêtue FKM équipée d'un actionneur électrique puissant, conforme à la directive 97/23/CE (PED) CE1115. Facile à installer et offre une durée de vie longue et sans problème. Classé PN16, taraudé et taraudé avec disque en acier inoxydable.

Sizes 2" - 3"



Dimensions shown are for guidance only

Dimensions HQ005

Size	A	B	C	n x m	Ø min. pipe
2"	332	62	43	4 x M16	31
2 1/2"	342	69	46	4 x M16	45
3"	356	90	46	4 x M16	65

Voltage

Size	24 VAC	24 VDC	110	230
2" - 8"	yes	yes	Yes	Yes
10"-12"	yes	yes	yes	yes

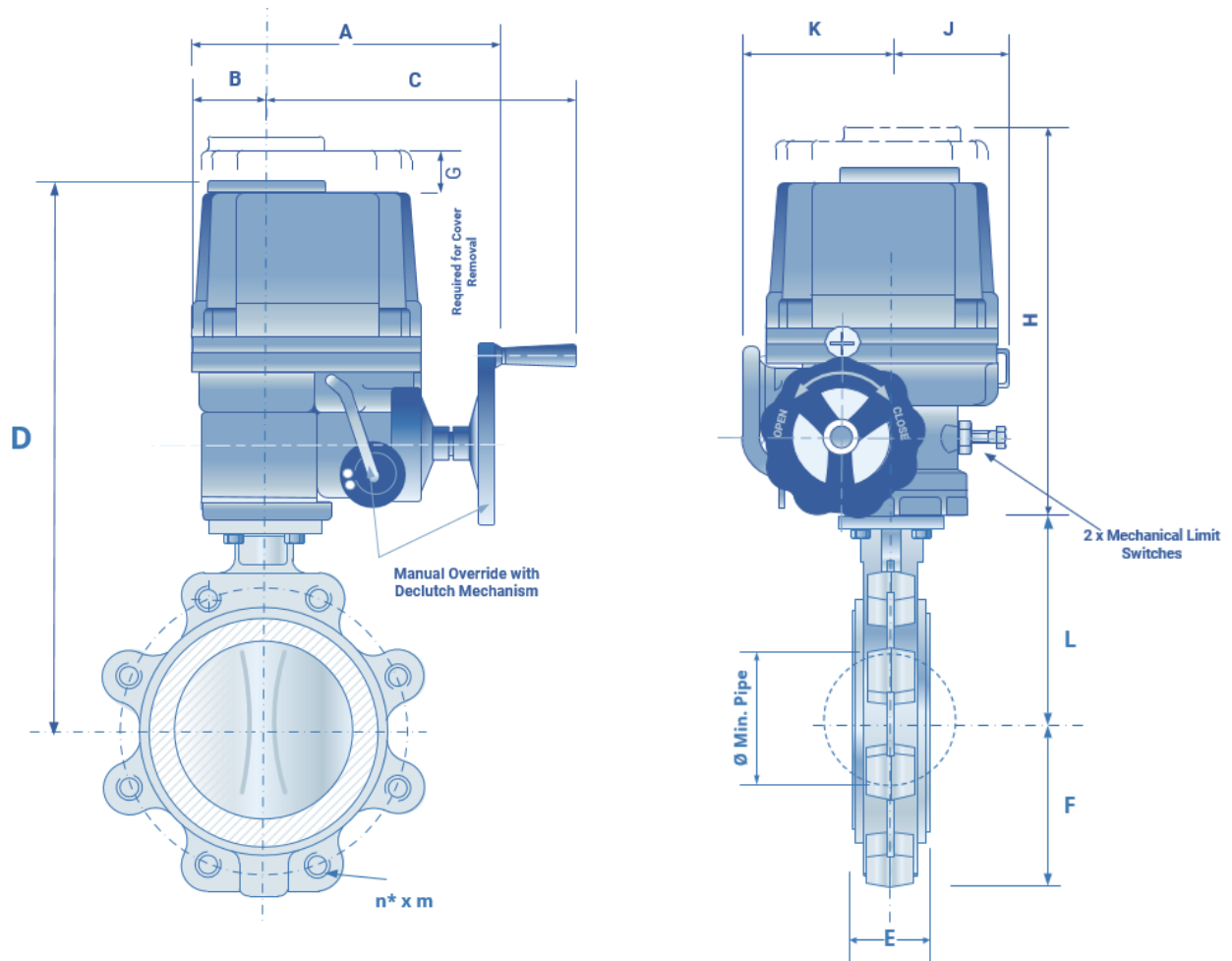
Material List

Body	Epoxy Coated Ductile Iron
Disc	Stainless Steel
Liner	Viton (FKM)
Shaft	Stainless Steel
Bushing	PTFE
Washer	Galvanized Carbon Steel
Circlip ISO 3075	Steel
O-Ring	Viton

Pressure / Temperature Ratings

Temperature	-10°C to 120°C
Working Pressure	PN16 2" - 12"

Sizes 4" - 12"



NOTE

Please Add 60mm to the height on the 4" Unit - As Mounting Bracket Required

Dimensions shown are for guidance only

Dimensions HQ008-HQ050

Size	ACT.	A	B	C	n x m	Ø min. pipe	D	E	F	G	H	J	K	L
4"	HQ008	258	50	157	8 x M16	90	290	52	106	120	120	235	100	170
5"	HQ015	338	73	200	8 x M16	110	340	56	119	160	160	268	142	180
6"	HQ015	338	73	200	8 x M16	146	360	56	131	160	160	268	142	200
8"	HQ030	368	82	221	12 X M20	194	410	60	166	180	180	290	221	230
10"	HQ050	368	82	221	12 X M24	241	426	68	202	180	180	290	221	266
12"	HQ050	368	82	221	12 X M24	291	472	78	235	180	180	290	221	292

Material List

Body	Epoxy Coated Ductile Iron
Disc	Stainless Steel
Liner	Viton (FKM)
Shaft	Stainless Steel
Bushing	PTFE
Washer	Galvanized Carbon Steel
Circlip ISO 3075	Steel
O-Ring	Viton

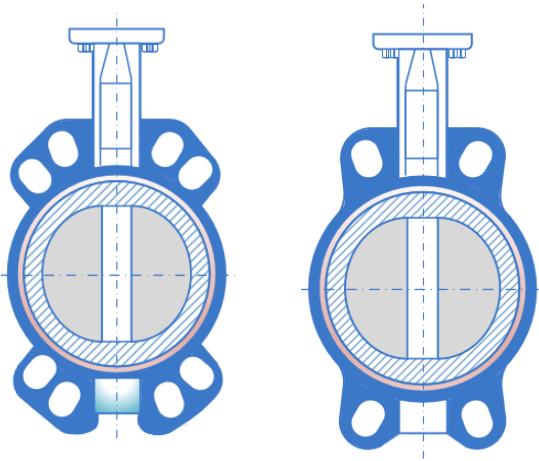
Pressure / Temperature Ratings

Temperature	-10°C to 120°C
Working Pressure	PN16 2" - 12"

Voltage

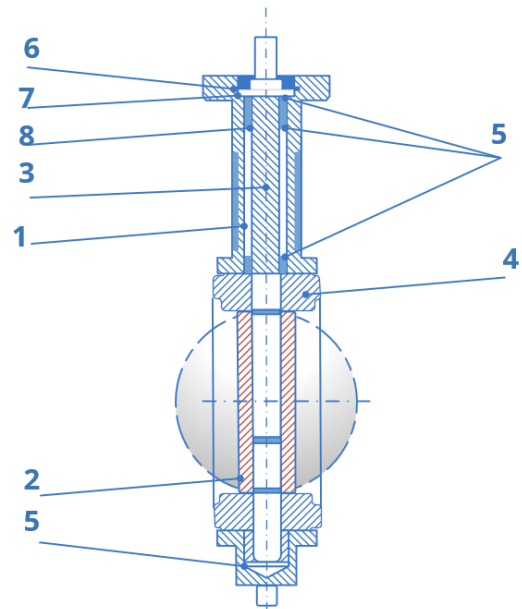
Size	24 VAC	24 VDC	110	230
2" - 8"	yes	yes	Yes	Yes
10"-12"	yes	yes	yes	yes

The valves above illustrate locating lugs for alignment of various flanges



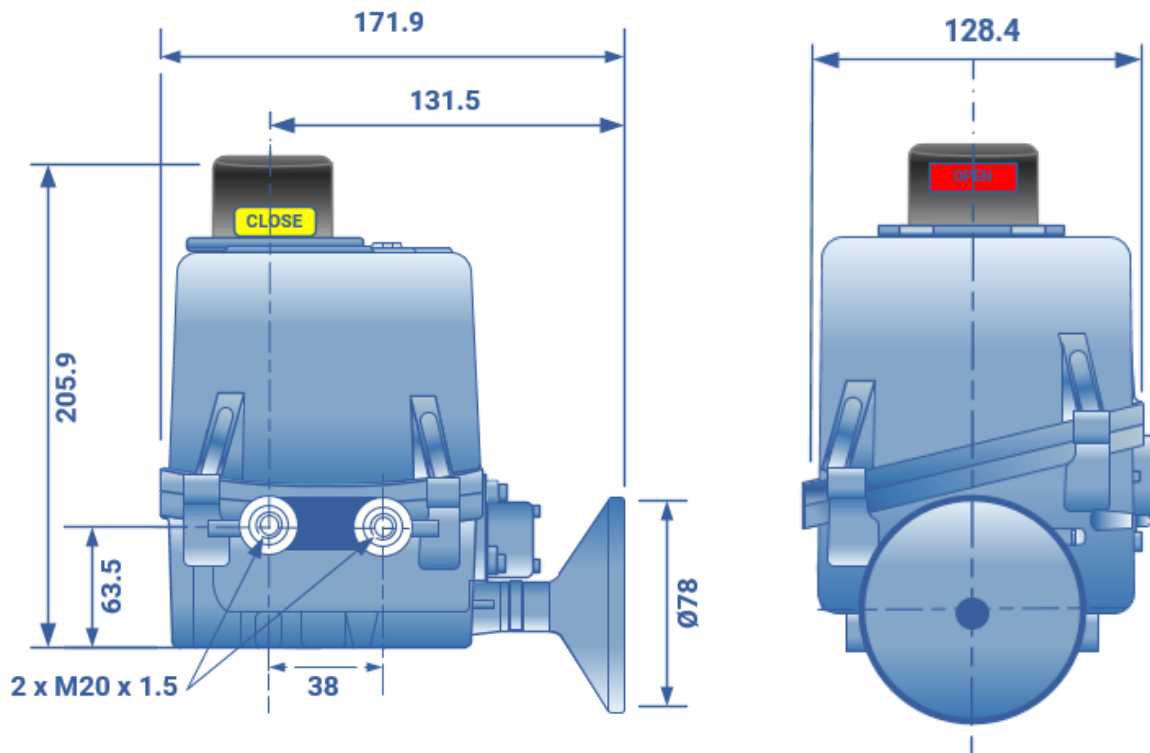
These valves are suitable for many applications including heating (HVAC), water treatment and water distribution, industrial applications, agricultural and for compressed air, gas, oils and hydrocarbons.

KV Rates									
Opening	10°	20°	30°	40°	50°	60°	70°	80°	90°
1"									
1 1/2"	0.04	2.1	4.8	10	19	30	48	73	79
2"	0.05	2.6	6	13	23	38	60	91	99
2 1/2"	0.09	3.8	14	33	53	75	98	108	108
3"	0.17	7.8	16	34	60	100	158	237	261
4"	0.26	15	31	67	120	199	314	471	518
5"	0.43	25	53	115	205	339	535	803	883
6"	0.69	39	82	177	316	522	817	1241	1364
8"	2.6	52	142	250	450	713	1122	1723	2716
10"	2.6	130	276	599	1068	1768	2798	4196	4611
12"	3.5	202	427	926	1650	2730	4322	6483	7124
14"	5.2	292	617	1376	2384	3945	6243	9364	10291
16"	6.9	401	849	1839	3279	5425	8585	12878	14152
18"	9.5	531	1124	2437	4342	7185	11371	17057	18743
20"	12	683	1445	3133	5609	9238	14620	21930	24099
24"	19	1055	2234	4840	8626	14272	22587	33882	37232



Pressure / Temperature		Material List		
Pressure	1" - 16" - PN16	1	Body	Epoxy Coated Ductile Iron
	18" - 24" - PN10	2	Disc	Stainless Steel
Temperature	EPDM -10°C to 120°C	3	Liner	EPDM, NBR, FKM, PTFE
		4	Shaft	Stainless Steel
		5	Bushing	PTFE
		6	Washer	Galvanised Carbon Steel
Temperature	NBR -10°C to 80°C	7	Circlip ISO 3075	Steel
		8	O-Ring	Viton
		9	Lever	Aluminium up to 6" Ductile Iron 8" & Above
		10	Bolts	Galvanised Carbon Steel
Temperature	FKM (Viton) -10°C to 120°C			
		PTFE -10°C to 120°C		

HQ005 Electric Actuator



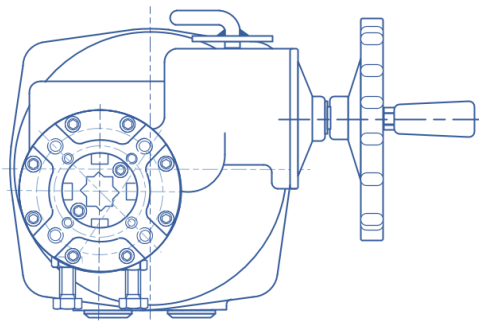
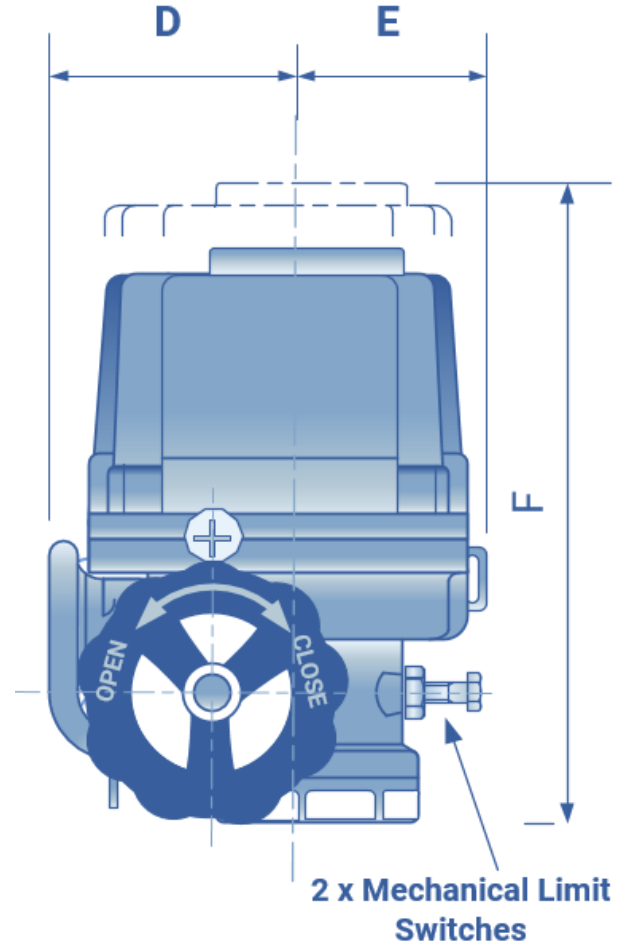
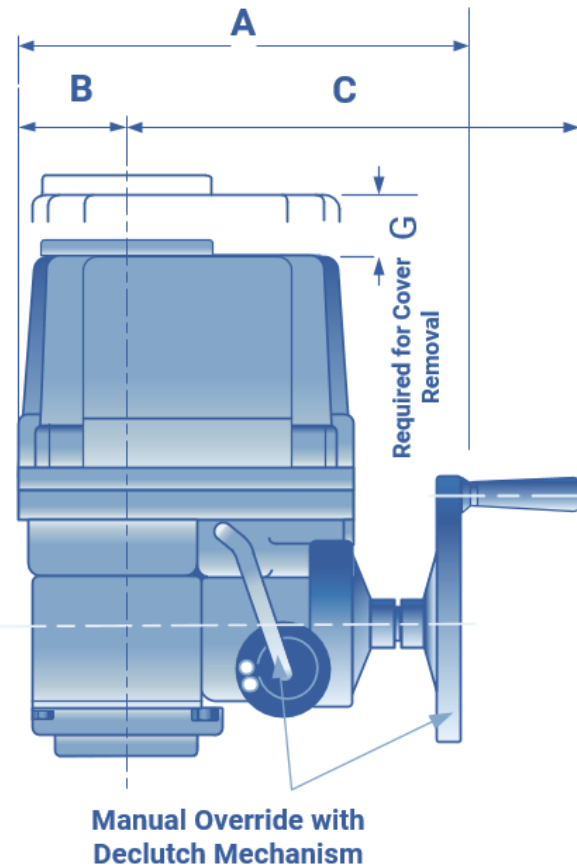
Multi voltage design (Single phase & 24V). High corrosion resistance, anodized & painted housing 4 off Limit switches. Torque output: 50 Nm, low current, long-life actuator due to unique brushless DC motor ensuring high reliability. 2 off M20 cable entries. IP67 weatherproof enclosure. F03/F04/F05/F07 mounting base with 14mm Star drive. Captive cover bolts. Visual beacon indicator & LED lamps. 70% Duty Rating (on/off only). De clutchable manual override handwheel. Electronic torque limiter.

Standard Actuator Specification	
Enclosure	: Weatherproof IP67
Power Supply	: 85 - 265 VAC 1 ph, 50/60Hz / 24 VAC/DC
Operating Time	: 90° - 30 seconds
Limit Switches	: 4 x SPDT, 250V AC 10A (2 std. & 2 additional)
Space Heater	: 2W Anti Condensation
Manual Override	: Handwheel Declutchable
Duty Cycle (on/off/duty)	: S4, 70% (average load of 80% for Max. torque) S2, 50% (average load of 80% for Max. torque)
Travel Angle	: 330°
Conduit Entries	: 2 x M20
Ambient Temperature	: -20 °C to + 80 °C
External Coating	: Dry Powder, Polyester

PERFORMANCE	
MODEL	HQ005
TORQUE(Nm)	50
SPEED 90° 50/60Hz	13
CURRENT 110/1/50	0.1A
(A) 220/1/50	0.05A
24 VAC/DC	0.8 A
WEIGHT	2.6
MAX.SQ.DRIVE	14
ISO 5211 mtg. base	F03, F04, F05, F07

OPTION SPECIFICATION	
PIU	: Potentiometer Unit (1K – 10K)
PCU	: Proportional Control Unit (In/Out: 0-10VDC, 4-20mA)
CPT	: Current Position Transmitter (Output 4-20mA)
TS	: Torque overload indicator module (single & redundancy)

HQ008/50 Electric Actuator



DIMENSIONS

Model	Base	A	B	C	D	E	F	G	H*	J
HQ008	F07	258	50	157	100	235	120	120	14	35
HQ015	F07/F10	338	73	200	142	268	160	160	17	45
HQ020	F07/F10	338	73	200	142	268	160	160	17	45
HQ030	F10/F12	368	82	221	160	290	180	180	22	52
HQ050	F10/F12	368	82	221	160	290	180	180	22	52
HQ060	F10/F12	368	82	221	160	290	180	180	27	52
HQ080	F12/F14	410	103	242	186	330	210	210	27	60
HQ120	F12/F14	410	103	242	186	330	210	210	36	60

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HQ008/50 Electric Actuator

Various options, including:

EXA - ATEX Eexd Enclosure to ATEX EX II 2 G, Exd IIB T4

PCU - 4-20mA or 0-10v Modulating positioner card

WTA - IP68 waterproof housing (10m / 72 Hr)

SICU - Local control unit with local/remote switch

MRCT - Speed control card

RBP - Failsafe battery backup (HQ008 to HQ030 only)

FPA - High temp fire protection.

Standard Actuator Specification	
Enclosure	: Weatherproof IP67
Power Supply	: 110/220V 1PH, 24VAC/24VDC 380/440V AC 3PH
Operating Time	: see chart
Limit Switches	: 4 x SPDT, 250V AC 10A
Space Heater	: 10W (110/240V AC)Anti Condensation
Manual Override	: Handwheel Declutchable
Duty Cycle (on/off)	: S4, 70% standard, 100% for Max 30 Mins
Travel Angle	: 90°
Conduit Entries	: 2 x M25 (PG13.5 or 1/2"NPT Option)
Ambient Temperature	: -20 °C to + 70 °C
External Coating	: Dry Powder, Polyester

OPTION SPECIFICATION	
PIU	: Potentiometer Unit (1K – 10K)
PCU	: Proportional Control Unit (In/Out: 0-10VDC, 4-20mA)
CPT	: Current Position Transmitter (Output 4-20mA)
LCU	: Local Control Unit (Remote/Open/Stop/Close Switch)
EXA	: Explosion Proof Enclosure. ATEX II 2G Eexd IIB T4
FPA	: Fire Proof Actuator. 250°C/150 min

PERFORMANCE								
MODEL	HQ008	HQ015	HQ020	HQ030	HQ050	HQ060	HQ080	HQ120
TORQUE(Nm)	80	150	200	300	500	600	800	1200
SPEED 90° 50/60Hz	16/13	25/21	25/21	31/26	31/26	31/26	34/28	34/28
CURRENT 110/1/50	1.1	1.65	1.67	1.86	3.62	3.62	4.1	4.2
(A) 220/1/50	0.55	0.88	0.89	0.92	1.58	1.62	2.2	2.35
MAX 380/3/50	N/A	0.31	0.31	0.35	0.59	0.6	0.85	0.87
WEIGHT	7.4	16.6	16.6	22	23	23	29	29
MAX.SQ.DRIVE	17	19	19	30	30	30	40	40

INSTALLATION AND TRANSPORT

- Keep in dry and closed place.
- While stored, the disc must be partially open (Fig. 1).
- Avoid knocks, take special care to protect lever, hand wheel, gear boxes/actuators.
- Do not use lever or hand wheel to lift the valve.

MAINTENANCE

The valve does not require maintenance.

RECOMMENDATIONS

Before carrying out maintenance or dismantling the valve, be sure that the pipes, valves and liquids have cooled down, that the pressure has decreased and that the lines and pipes have been drained in case of toxic, corrosive, inflammable or caustic liquids.

Temperatures above 50°C and below 0°C might cause damage to people.

INSTALLATION

- Handle with care.
- Do not weld the flanges to the piping after installing the valve.
- Water hammers might cause damage and ruptures. Inclination, twisting and misalignments of the piping may subject the valve to stress, once installed. It is recommended that elastic joints be used in order to reduce these effects as much as possible. The disc must be partially open (Fig. 1).

FIG. 1

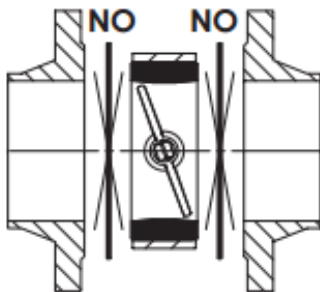


FIG. 2

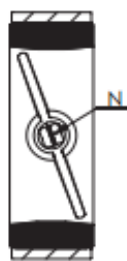
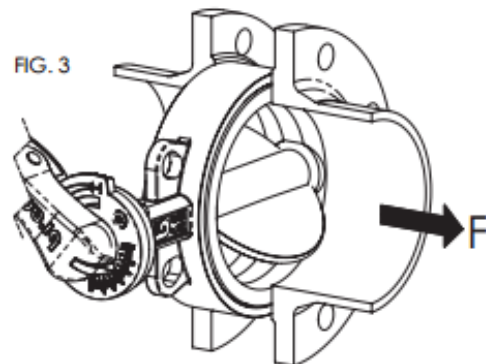


FIG. 3



The stem has a machined notch N (Fig. 2), which indicates the position of the disc; consider this indication, in order to mount the levers and actuators correctly.

The mounting can be made with the stem axis in a horizontal or vertical position. In case the fluid contains suspended solid particles (for example, sand, impurities, etc.) or solid particles that may leave deposits, it is recommended that the valve be installed with its axis horizontal, and in such a way that the bottom end of the disc opens in the direction of flow, F. (Fig. 3)

The item L9 allows the dismantling of the pipes downstream, for pressures below 6 bar. For end of line installation:

- SERIES J9 (all pressures), series L9 (pressure > 6 bar): counter flange **MUST** be installed
- SERIES L9 (pressure < 6 bar): it is recommended that a counter flange be installed.

Verify maximum working pressure and limits of use under section "maximum pressure".

Place the valve between two flanges. While placing the valve, ensure there is sufficient space in order not to damage the rubber. Do not mount seals between valve and flanges (Fig. 1). Carefully clean the contact surface. Do not install the butterfly valve in direct contact with a rubber surface (for example, expansion joints); the best installation is when the rubber is in contact with metal (Fig. 4).

In order to achieve correct working, the internal diameter of the pipe must be greater than the value indicated in the chart. Do not weld the flanges to the tube if the valve has already been installed. It is recommended that the flanges listed in the chart be used. As far as possible, avoid flat flanges for welding (EN 1092 01 type); if these flanges are used, ensure perfect centring between the flange and valve, and be sure to weld exactly edgewise to the flange. Do not let protrusions or sharp edges on the piping cause damage to the rubber surface of the valve (Fig. 5).

FIG. 4

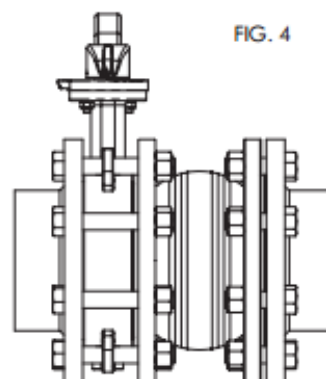
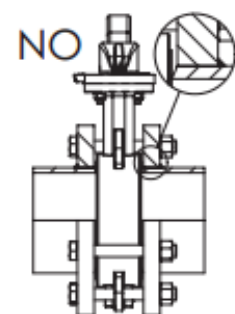


FIG. 5



Centre the valve on holes while using wafer type valves.

Tighten the bolts crosswise and progressively, in order to distribute the pressure equally before the body and flanges come into contact with each other. (Fig. 6)

With regard to the Lug version, check that the screws are the correct length, in order to allow complete compression of the lining rubber.

Turbulences of the fluid might increase erosion and reduce the life-cycle of the valve. Install the valve at a distance of at least 1 x DN upstream, and at a distance of 2-3 x DN downstream, away from fittings or bends.

In the open position, the valve is larger than the nominal Face to Face value.

Check that no other components of the piping interfere or create damage or malfunction (Fig. 7A).

If they do, a spacer should be inserted for the valve to operate correctly (Fig. 7B).

FIG. 6

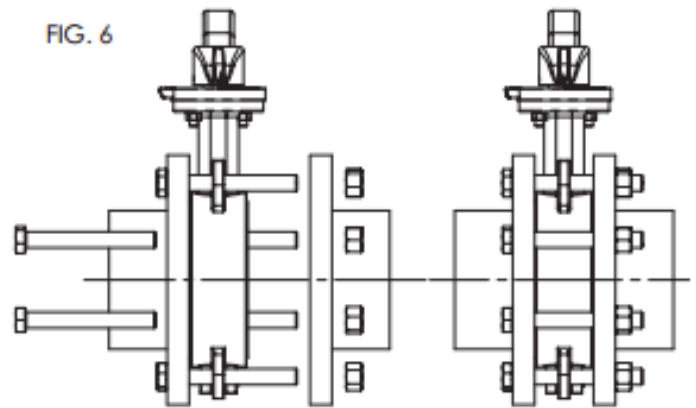


FIG. 7A

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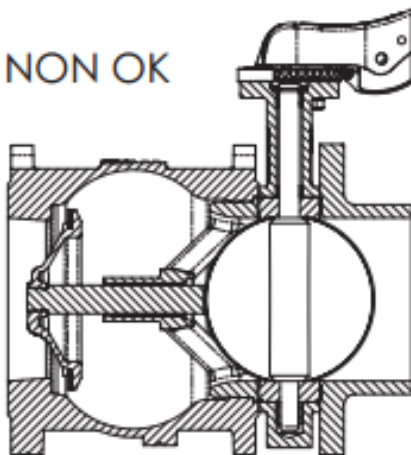
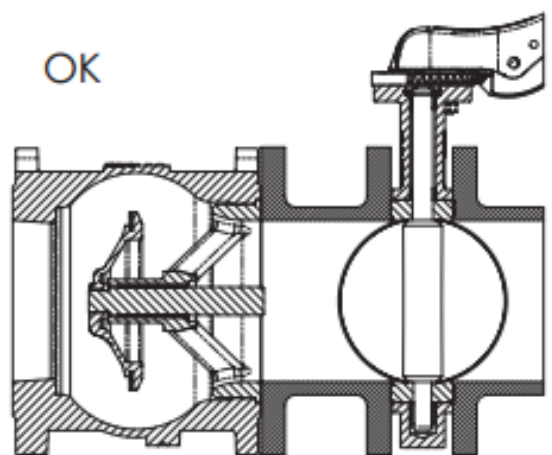


FIG. 7B

OK



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