

PNEUMATIC & ELECTRIC ACTUATION

Welcome to Effast

Effast by Polypipe is a well-established brand name that is recognised throughout both the industrial process market and construction industries for its market-leading range of thermoplastic pipework systems suitable for use within industrial applications.

Manufactured in Cicagna North Italy, the company now provides these components to customers all over the world and leads the way in the research and development of advanced new solutions that satisfy the specific needs of the market.

Supported by its large UK based manufacturing capabilities, Polypipe has developed Effast's comprehensive product portfolio such that it now offers a proven and effective solution to virtually any requirement. No matter what the project, the Effast range can offer the perfect combination of pressure pipe fittings, ball, butterfly, diaphragm and actuated valves, compression joints, adaptors and other fittings. Normally available in both metric and imperial dimensions these products are suited to many different applications in such areas as; food and beverage processing, chemical manufacture, water treatment, marine, spa and swimming pools, building technology and agriculture.

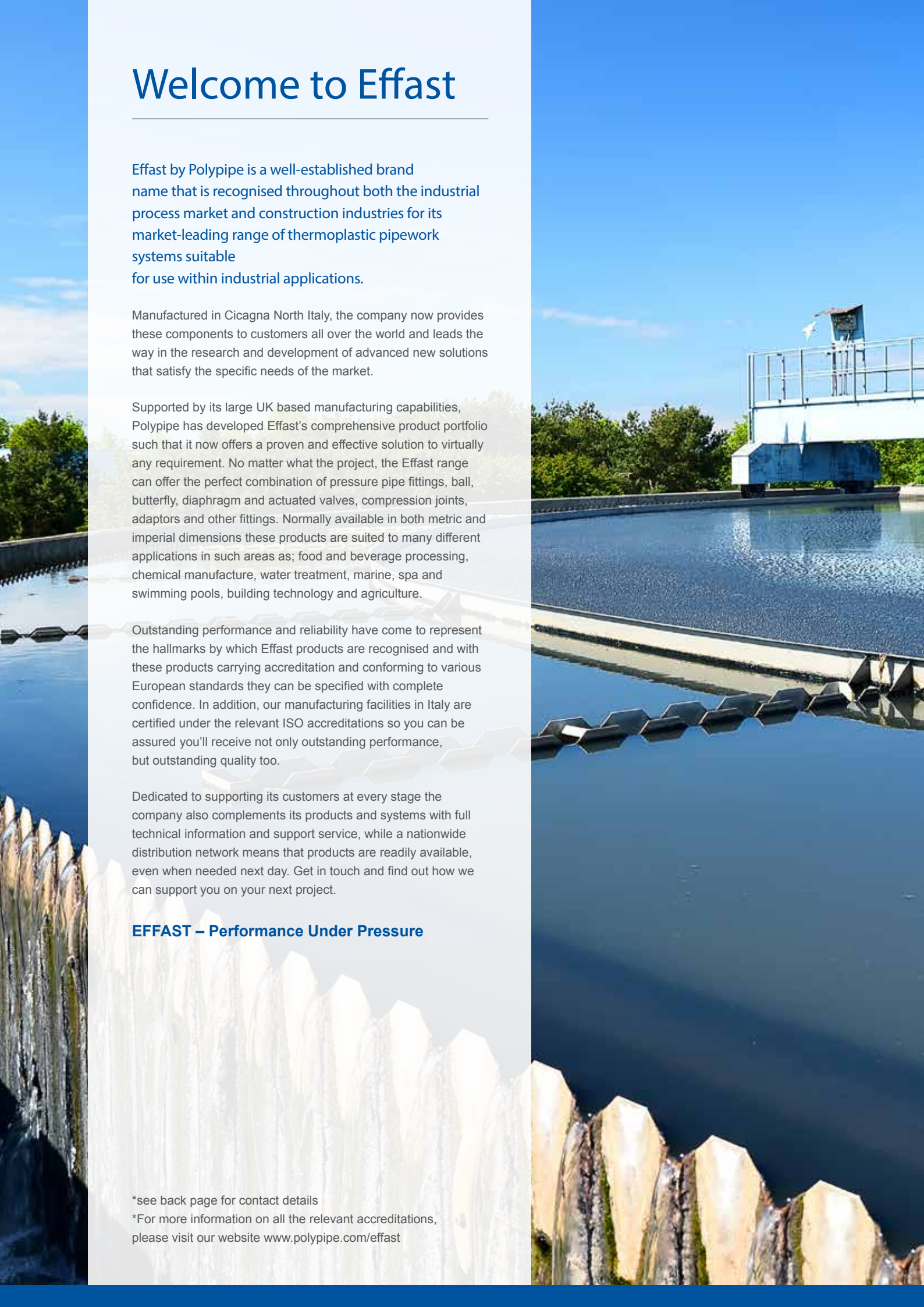
Outstanding performance and reliability have come to represent the hallmarks by which Effast products are recognised and with these products carrying accreditation and conforming to various European standards they can be specified with complete confidence. In addition, our manufacturing facilities in Italy are certified under the relevant ISO accreditations so you can be assured you'll receive not only outstanding performance, but outstanding quality too.

Dedicated to supporting its customers at every stage the company also complements its products and systems with full technical information and support service, while a nationwide distribution network means that products are readily available, even when needed next day. Get in touch and find out how we can support you on your next project.

EFFAST – Performance Under Pressure

*see back page for contact details

*For more information on all the relevant accreditations, please visit our website www.polypipe.com/effast



Effast Pressure System Range

	PVCu	TYPICAL APPLICATIONS
	<ul style="list-style-type: none"> • Most Widely Used Plastic Material • Large Choice of Fittings • Excellent Chemical Resistance • Rigid Construction 	<ul style="list-style-type: none"> • Industrial Process Systems • Water Treatment and Chemical Dosing • Food & Beverage • Swimming Pools and Spas • Cold Water Supply
	ABS	TYPICAL APPLICATIONS
	<ul style="list-style-type: none"> • Wide Temperature Range • High Impact Strength • Abrasion Resistance • Non Toxic 	<ul style="list-style-type: none"> • Chilled Water • Boosted Cold Water • Plant Rooms • Chemical & Pharmaceutical

General Overview and Comparison of the TWO System Materials

Material	Sizes available	Minimum operating temperature	Maximum operating temperature	Joining methods†	Colour
PVCu	Metric 16mm - 315mm Imperial ½" - 8"	0°C	60°C	Solvent Weld	Dark grey
ABS	Imperial ½" - 8"	-40°C	60°C	Solvent Weld	Light grey

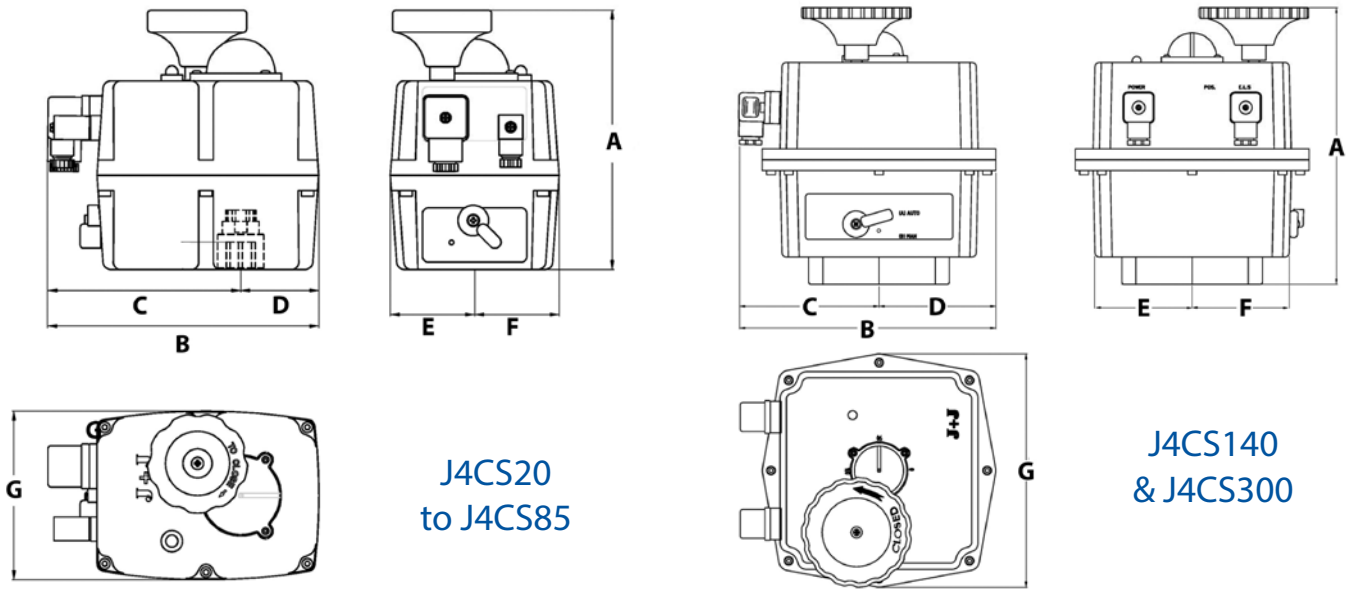
The operating pressure of plastics is reduced with increases in operating temperature.

† A range of flanges and threaded fittings are available within all systems.

Both Effast materials are suitable for a number of applications. The table below details common applications and the appropriate Effast materials for that situation

Applications Guide	ABS	PVCu	Applications Guide	ABS	PVCu	Applications Guide	ABS	PVCu
Acids and Alkalis	✓	✓	Effluent Treatment	✓		Potable Water	✓	✓
A/C and Refrigeration	✓		Electro Plating	✓	✓	Pulp and Paper	✓	
Biotechnology	✓	✓	Film Processing	✓	✓	Semi Conductor	✓	✓
Boosted Cold Water	✓	✓	Food Processing & Beverages	✓		Slurries	✓	
Condensate	✓		Glycol Systems	✓		Swimming Pools	✓	✓
Chemical Dosing	✓	✓	Irrigation	✓	✓	Water & Sewage Treatments	✓	✓
Chilled Water	✓		Marine / Brine	✓		Water Industry	✓	✓
De-Mineralised Water	✓	✓	Pharmaceutical	✓	✓			

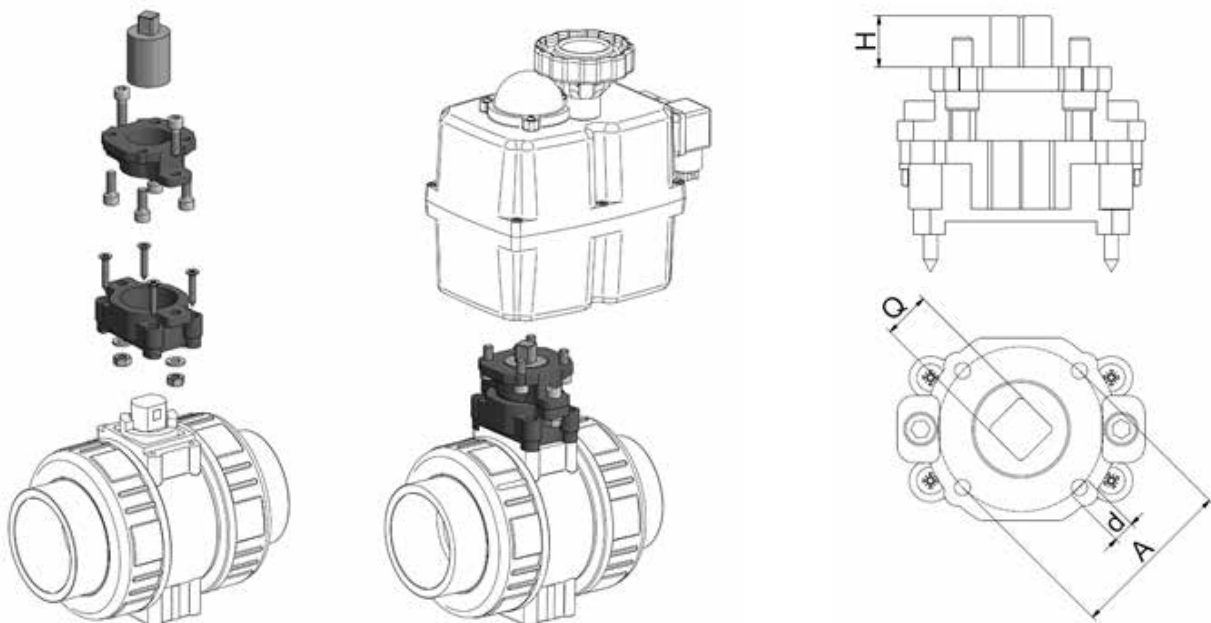
Technical - Electric Actuation



Part No.	Max Torque Run Nm	Maximum Torque Break Nm:	Operating Speed	ISO 5211	DIN 3337 Female Output Drive	A	B	C	D	E	F	G	Kg
J4CS20	20	25	9 sec	F03/F04/F05	14mm	169	181	130	51	55	55	110	1.80
J4CS35	35	38	9 sec	F03/F04/F05	14mm	169	181	130	51	55	55	110	1.90
J4CS55	55	60	13 sec	F05/F07	17mm	196	181	130	51	55	55	110	2.40
J4CS85	85	90	29 sec	F05/F07	17mm	196	181	130	51	55	55	110	3.00
J4CS140	140	170	34 sec	F07/F10	22mm	254	235	128	107	107	107	214	5.20
J4CS300	300	350	58 sec	F07/F10	22mm	254	235	128	107	107	107	214	5.20

Actuation and Fastening

Effast Industrial Ball Valves can be actuated with electric or pneumatic actuators using the dedicated kit (ref. code PBMSVM). The mounting flange is drilled according to standard ISO 5211 and drive adaptor to DIN 3337.



Electric Actuation

Electric actuator converts electrical input into kinetic energy to operate the valve. Electric actuators provide precise control and positioning and have low operating costs.



Key Benefits

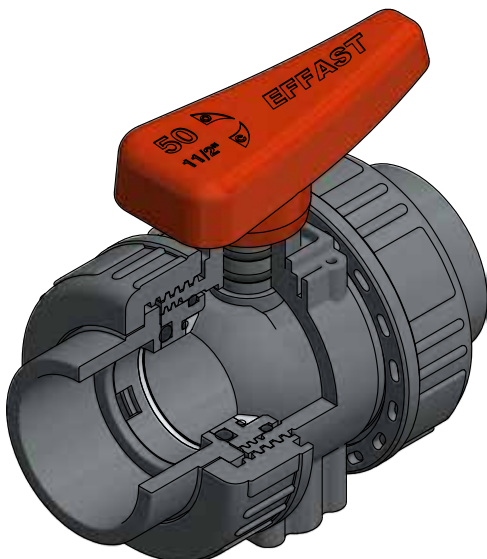
- 3 year / 60,000 cycle warranty (whichever comes first)
- Accepts 24-240VDC/ VAC 50/60Hz (-0/+5%) external power range
- Multi-coloured LED light for continuous status feedback to user
- Brushless motor technology
- All external electric connections via DIN plugs
- Thermostatic anti-condensation 3.5W heater
- Electronic torque limiter
- Dome local high visibility position indicator
- 2 volt free end of travel confirmation switches
- Handwheel operated selectable manual override

Accessories

- Modulating and fail-safe options available

EFFAST PVC-U and ABS Valves

Effast PVC-U and ABS industrial ball valves are a double union ball valve ideal for heavy duty applications, chemical applications and water treatment.



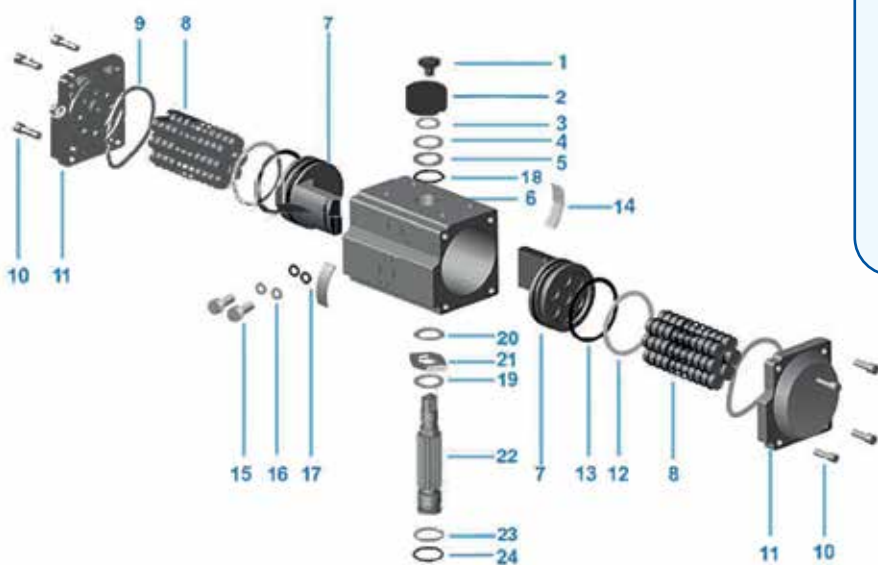
Construct Your Requirements in a Four Stage Process

- 1 Choose Pneumatic or Electric Actuator
- 2 Choose your valve material
- 3 Choose your seal material
- 4 Choose your valve style



Pneumatic Actuation

Pneumatic actuators are air operated mechanical devices which use compressed air pressure into mechanical force to operate the valve. No leakage ensures zero contamination in surrounding areas. Requires centralised source of compressed air.



Key Benefits

- 1 year warranty
- Available in both double acting and spring return
- ATEX EXII2GDcT certification
- Assemblies based on a 6 bar air supply (8 bar max)
- Compliant with Namur and VDI/VDE 3845
- ISO 5211 and DIN 3337 compliant
- Hard anodized aluminium body and epoxy coated end caps
- Double acting torques from 9 to 3916 Nm at 6 bar
- Single acting torques from 9.5 to 1547.5 Nm at 6 bar

Accessories

- Switchbox and solenoid options available on request

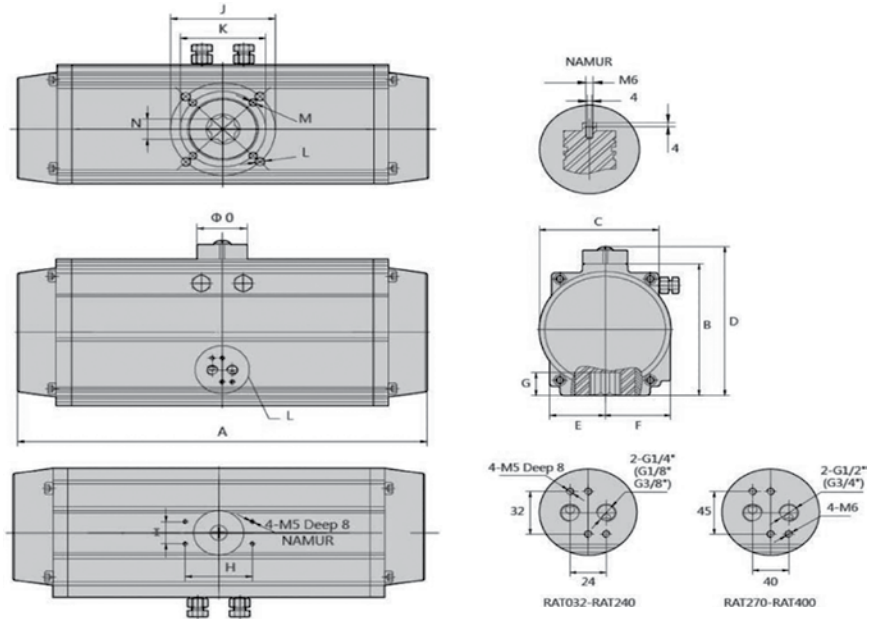
Part No.	Component	Material
1	Indicator Screw	PA66+SS
2	Indicator	POM
3	Spring Clip	Circlip
4	Washer	Stainless Steel
5	Outside Washer	PTFE
6	Body	Aluminium Alloy
7	Piston	Cast Aluminium
8	Spring Assembly	60Si2Nn2 + PA66
9	End Cap O-ring	NBR
10	Cap Screw	Stainless Steel
11	End Cap	Cast Aluminium
12	Bearing (Piston)	PTFE

Part No.	Component	Material
13	O-ring (Piston)	NBR
14	Guide (Piston)	POM
15	Adjusting Bolt	Stainless Steel
16	Adjusting Screw Nut	Stainless Steel
17	O-ring (Adjusting Nut)	NBR
18	O-ring (Pinion Top)	NBR
19	Bearing (Pinion Top)	PTFE
20	Inside Washer	PTFE
21	Cam	Stainless Steel
22	Pinion	Alloy Steel
23	Bearing (Pinion Bottom)	PTFE
24	O-ring (Pinion Bottom)	NBR

Technical - Pneumatic Actuation

Double Acting Aluminium Pneumatic Actuator

Model (HTD)	Nm @6bar
032	9
052	25
063	43.9
075	70.5
083	89.1
092	136.4
105	203.6
125	349.8
140	526.4
160	802.2
190	1292.9
210	1776.7
240	2785
270	3916.3



Single Acting Aluminium Pneumatic Actuator

Model (HTS)	Nm Initial Air @6bar	Nm End of Spring (12 Spring)
052	15.5	9.5
063	27	16.9
075	42.1	28.4
083	56.2	34.8
092	90.4	61.2
105	123.9	79.7
125	207.3	142.5

Model (HTS)	Nm Initial Air @6bar	Nm End of Spring (12 Spring)
140	314	212.4
160	474.6	327.6
190	771.1	521.8
210	1059.6	717
240	1660.7	1124.3
270	2335.9	1580.4

Model (HTS)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Air Conn.
032*	112	45	51	71	22.5	28.5	12	50	25	F03/φ36	-	M5x8	-	9	φ40	1/8"
052	163.5	72	65	98	26	42	14	80	30	F05/φ50	F03/φ36	M6x9	M5x8	11	φ40	1/4"
063	181	87.6	71	113	33	47	18	80	30	F07/φ70	F05/φ50	M8x10	M6x9	14	φ40	1/4"
075	207	99.4	80.2	125	38.7	52.5	20	80	30	F07/φ70	F05/φ50	M8x12	M6x9	14	φ40	1/4"
083	213	108.9	91.6	134.5	40	56.5	21	80	30	F07/φ70	F05/φ50	M8x12	M6x9	17	φ40	1/4"
092	258	117	98.3	143	44	59	21	80	30	F07/φ70	F05/φ50	M8x12	M6x10	17	φ40	1/4"
105	287	133	109.5	158.5	52	64	24.5	80	30	F10/φ102	F07/φ70	M10x15	M8x12	22	φ40	1/4"
125	342.5	154.4	127.2	180.5	59.7	74	29	80	30	F10/φ102	F07/φ70	M10x15	M8x12	22	φ50	1/4"
140	411	173.7	138	200	65	77	32	80	30	F12/φ125	F10/φ102	M12x20	M10x15	27	φ60	1/4"
160	488	198	158.3	224	73.8	86.7	34.5	80	30	F12/φ125	F10/φ102	M12x20	M10x15	27	φ60	1/4"
190	544	232.3	188.7	258	85.3	102.8	40	130	30	F14/φ140	-	M16x22	-	36	φ80	1/4"
210	580	257.6	210.5	284	96.5	113.2	41	130	30	F14/φ140	-	M16x24	-	36	φ80	1/4"
240	622	291	245	317	115	130	50	130	30	F16/φ165	-	M20x26	-	46	φ80	3/8"
270	766	330	273	356	126	147	50	130	30	F16/φ165	-	M20x26	-	46	φ80	1/2"

*Available only in double acting.

Certifications

Quality Marks*

Our knowledge and expertise to bring innovation in all we do has helped us produce a specialist range of products and solutions that are always up to date with the very latest regulations and quality standards.



Quality Management System ISO 9001:2015 and Environmental Management System ISO 14001:2015, certified by Kiwa Cermet Italia for "Design and manufacturing of plastic fittings and valves through moulding and assembling processes; trading of accessories".



Product certificate Kiwa-UNI for PVC-U plastic fittings for water supply and for buried and above-ground drainage and sewerage under pressure, according to UNI EN ISO 1452-3.



Product certificate, issued in accordance with Kiwa Regulations for Product Certification, for Solvent cemented fittings of PVC-U, according to KIWA Evaluation Guideline BRL-K17301.



Certificate of conformity of PVC fittings according to DIN EN ISO 1452-3.



Certificate for plastic piping systems for water supply following the French standards NF EN ISO 1452-3, NF T 54-029.



BRITISH STANDARDS

Kitemark licence for PVC-U plastic piping systems for water supply, according to BS EN ISO 1452-3.



BRITISH STANDARDS

Kitemark licence for ABS plastic piping systems for water supply, according to BS 5392 part 1.



BUREAU VERITAS

Type Approval Certificate for thermoplastic material Pipes and Fittings on Marine Application.



Approvals for PVC-U and ABS range of fittings and solvent cement, according to the requirements of the United Kingdom Water Supply (Water Fittings) regulations and Scottish Water Byelaws.



Certificate according to the Guideline for Hygienic Assessment of Organic Materials in Contact with Drinking Water (KTW Guideline).



Attestation de Conformité Sanitaire for PVC-U raw material compound and PVC-U valves.



Russian Hygienic and Sanitary certificate.



Certified to NSF/ANSI 61

Certificate of compliance with NSF/ANSI 61 and all applicable requirements (for products appearing in NSF Official Listing).



Certificate of conformity for Valves in thermoplastic material, according to the requirements of Annex III, Module A2 of the Pressure Equipment Directive 2014/68/EU.

*Certifications across the Effast Pressure System Range

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