



PLUNGER

FLOW CONTROL VALVE

AFFCO Company Info

AFFCO General

Valves play a pivotal role in a multitude of industries to provide flow control in pipelines. Seeing the significance of valves across multiple industries, AFFCO embarked on a journey to manufacture high quality, high performance valves and valve systems.

AFFCO pledges to build up an ever stronger research and development capability, further improve its product quality and design, and provide better customer service, to achieve their goals of being a globally renowned manufacturer of butterfly valves, valves and flow control systems.

AFFCO focus on three key aspects, quality, precision and service.



Innovation

AFFCO insists in NPD every year to breakthrough the existing problems and create more value to customers.



Sustainability

AFFCO advocates sustainable development in products concept to build eco system.



Reliability

AFFCO has stable operation torque, the sealing performance remains stable with temperature changes and long life time.

Plunger Flow Control Valve

■ Overview

The plunger flow control valve is mainly designed for regulating flow rate and pressure in water pipelines. This regulation is achieved by the axial movement of a plunger, operated by a shaft-rod-crank mechanism.

The plunger is positioned in the center of the valve, in a chamber specially shaped to protect it from the water flow and avoid noise and cavitation damage, while also ensuring vibrations-free operation.

The water flow is channelled through a ring-shaped chamber around the central body of the valve. The cross section of this chamber diminishes constantly from the inlet to the outlet, causing the flow speed to rise and the pressure to drop.

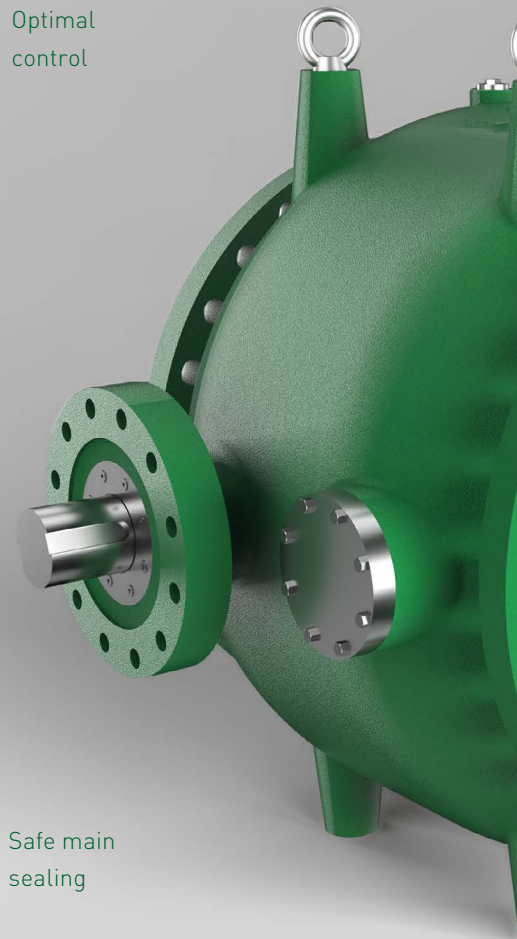
This ideal geometric shape protects the pipe from cavitation bubbles, which are directed towards the center of the down-stream outlet flange.



Optimal
control



Safe main
sealing





No cavitation
damage



Long
lifetime

■ Application Range

- Pumping Stations
- Reservoir and Turbine Inlet
- Shut off valve for high pressure and high flow velocity
- Bottom Outlet Valve for Dams
- Turbine by-pass
- Pressure Control and Flow Regulation

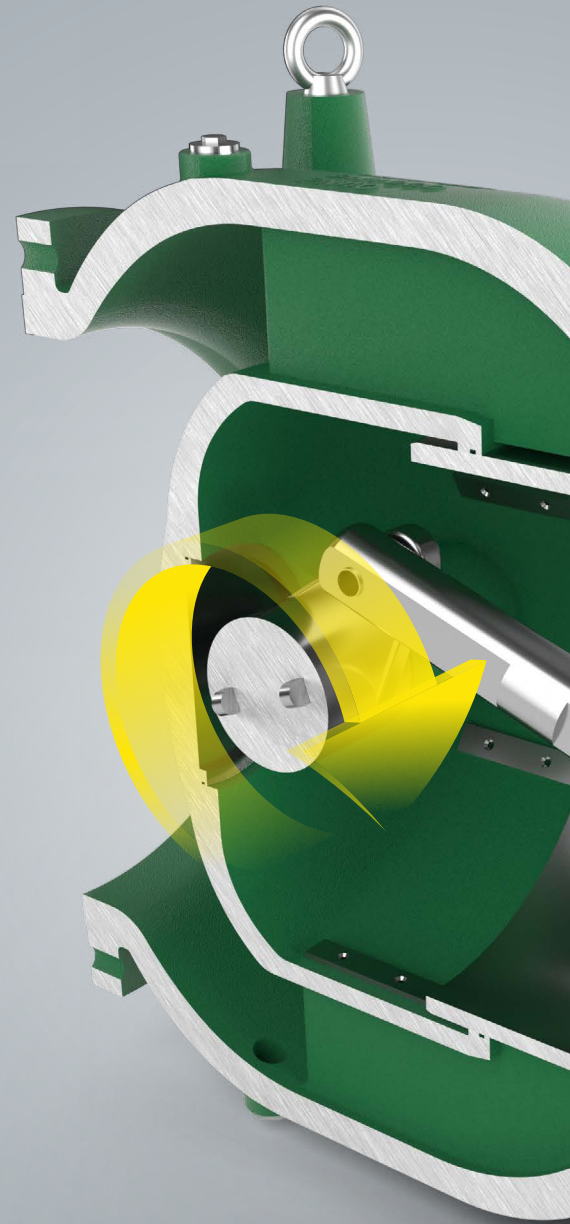


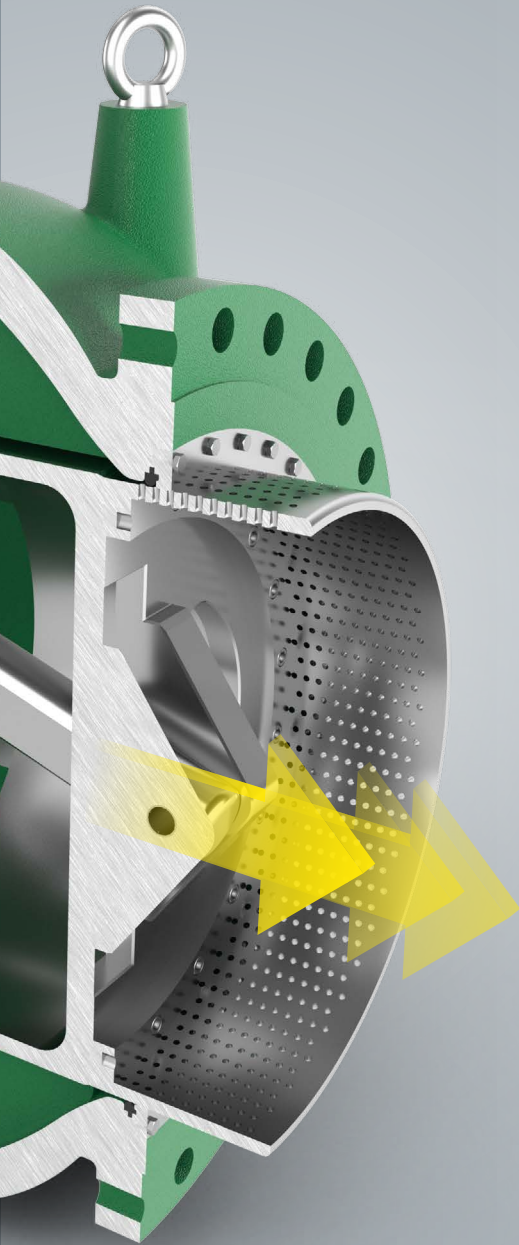
Hygienically
safe



Design Feature

- One-piece body construction
 - T-shape main seal located in safety flow area ensuring minimal wear and long service life
 - Maintenance access is conveniently provided by the downstream retaining ring and the upstream cover being attached with screws
 - Low operating torque due to pressure balance in chamber inside
 - Gearbox with handwheel for ON/OFF operation
 - Low head loss coefficient in fully open position due to optimized internal body shape
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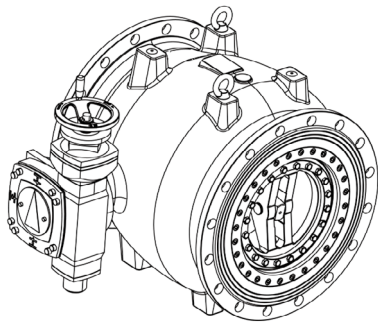




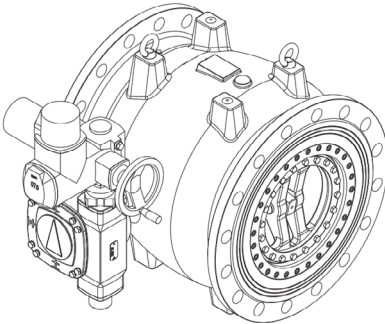
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- Double O-ring sealed drive shaft with all other shafts and bearings protected against corrosion with O-ring combinations
 - 4 guide rails ensure no vibration during operation and accurate alignment throughout full valve stroke
 - Body in ductile iron with internal parts in stainless steel and bronze guide rails for high corrosion resistance
 - Internally and externally corrosion protected with a coating of blue RAL 5017 fusion bonded epoxy to DIN 3476 and applied in a GSK approved process.
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Material & Configuration

Product Variations



Optimal Control

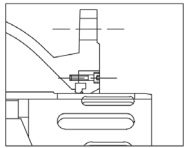


Electric Actuator

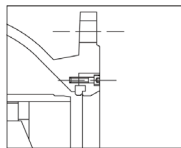
Material List

Item	Description	Material	
1	Body	EN-GJS 500-7	EN 1563
2	crank	1.4028	EN 10088-3
3	Shaft	1.4028	EN 10088-3
4	Packing Gland	1.4028	EN 10088-3
5	Swing Arm	1.4462	EN 10088-3 DUPLEX
6	piston	1.4301	EN 10088-3
7	Stop Pin	1.4462	EN 10088-3 DUPLEX
8	Sealing Ring	EPDM	ISO 1629
9	Seat Ring	1.4301	EN 10088-3
10	envelop	1.4301	EN 10088-3
11	Blind flange	1.4301	EN 10088-3

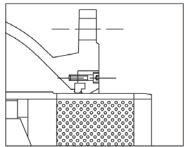
Versions



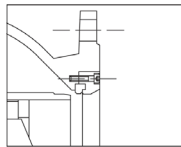
Slotted Cylinder



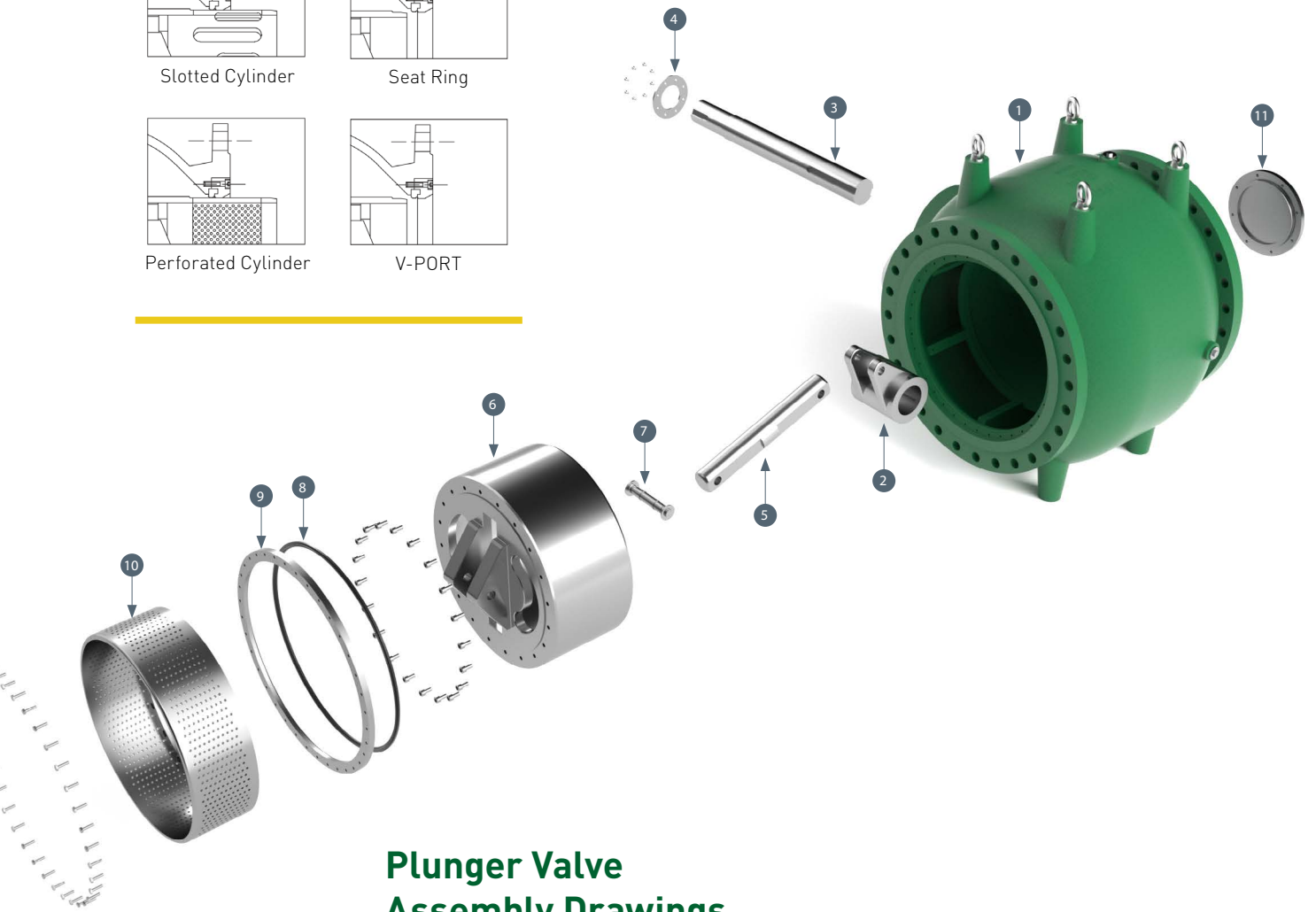
Seat Ring



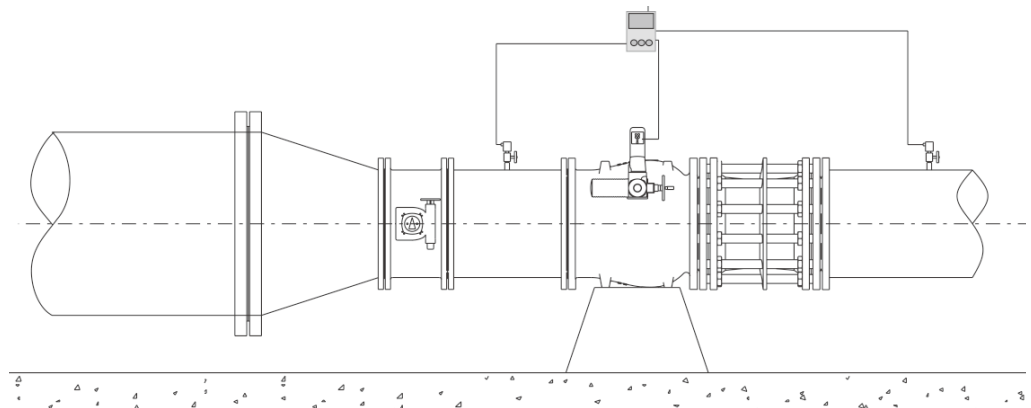
Perforated Cylinder



V-PORT



Plunger Valve Assembly Drawings





Plunger Flow Control Valve

S809

Technical Information

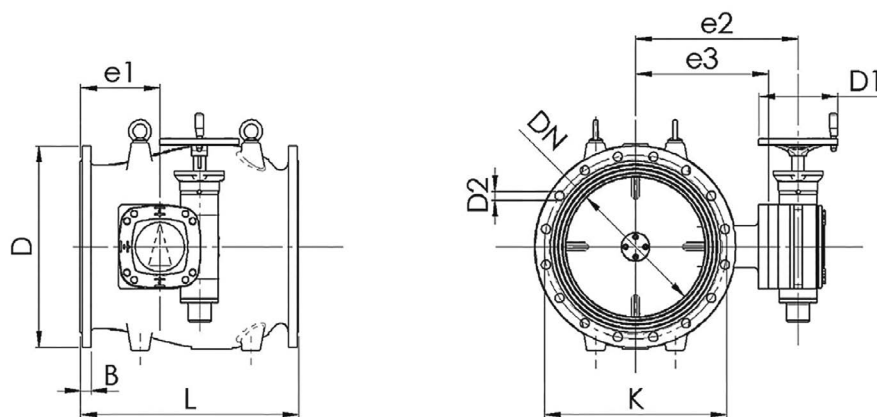
Design	EN1074-1&5
Nominal Diameter	DN200 –DN1400 (8-56")
Flange Connection	EN1092-2
Face to Face	EN588 series15
Pressure	PN10 PN16 PN25 PN40 PN64
Test	EN 12266-1

PN 10

DN		200	250	300	350	400	450	500	600	700	800	900	1000	1200	1400
D	[mm]	340	395	445	505	565	615	670	780	895	1015	1115	1230	1455	1675
D1	[mm]	200	200	200	250	250	250	250	250	250	250	250	250	250	250
D2	[mm]	23	23	23	23	28	28	28	31	31	34	34	37	41	44
B ³	[mm]	20	22	24,5	24,5	24,5	25,5	26,5	30	32,5	35	37,5	40	45	46
e1	[mm]	160	164	185	200	230	235	245	318	310	325	350	360	425	475
e2	[mm]	273	300	352	410	440	470	500	563	647	700	753	815	1015	1128
e3	[mm]	228	255	295	335	365	395	425	488	572	625	678	740	900	1013
K	[mm]	295	350	400	460	515	565	620	725	840	950	1050	1160	1380	1590
L ¹	[mm]	400	450	500	550	600	650	700	800	900	1000	1100	1200	1400	1600
Holes	[nr]	8	12	12	16	16	20	20	20	24	24	28	28	32	36
Weight ²	[kg]	106	145	195	290	335	495	470	700	1000	1330	1725	2265	3530	5020

PN 16

DN		200	250	300	350	400	450	500	600	700	800	900	1000	1200	1400
DN		200	250	300	350	400	450	500	600	700	800	900	1000	1200	1400
D	[mm]	340	405	460	520	580	640	715	840	910	1025	1125	1255	1485	1685
D1	[mm]	200	200	200	250	250	250	250	250	250	250	250	250	250	250
D2	[mm]	23	28	28	28	31	31	34	37	37	41	41	44	50	50
B ³	[mm]	20	22	24,5	26,5	28	30	31,5	36	39,5	43	46,5	50	57	60
e1	[mm]	160	164	185	200	230	235	245	318	310	325	350	360	425	475
e2	[mm]	273	300	352	410	440	470	500	563	647	700	753	815	1015	1128
e3	[mm]	228	255	295	335	365	395	425	488	572	625	678	740	900	1013
K	[mm]	295	355	410	470	525	585	650	770	840	950	1050	1170	1390	1590
L ¹	[mm]	400	450	500	550	600	650	700	800	900	1000	1100	1200	1400	1600
Holes	[nr]	12	12	12	16	16	20	20	20	24	24	28	28	32	36
Weight ²	[kg]	106	145	195	290	335	495	510	750	1005	1330	1770	2290	3575	5030



PN 25

DN	200	250	300	350	400	450	500	600	700	800	900	1000
D [mm]	360	425	485	555	620	670	730	845	960	1085	1185	1320
D1 [mm]	200	200	250	250	250	250	250	250	250	250	250	250
D2 [mm]	28	31	31	34	37	37	37	41	44	50	50	57
B ³ [mm]	22	24,5	27,5	30	32	34,5	36,5	42	46,5	51	55,5	60
e1 [mm]	160	164	185	200	230	235	245	318	310	325	350	360
e2 [mm]	273	300	370	410	440	470	500	563	682	735	778	840
e3 [mm]	228	255	295	335	365	395	425	488	607	660	703	725
K [mm]	310	370	430	490	550	600	660	770	875	990	1090	1210
L ¹ [mm]	400	450	500	550	600	650	700	800	900	1000	1100	1200
Holes [nr]	12	12	16	16	16	20	20	20	24	24	28	28
Weight ² [kg]	113	152	248	324	404	501	593	768	1190	1575	2160	2850

PN 40

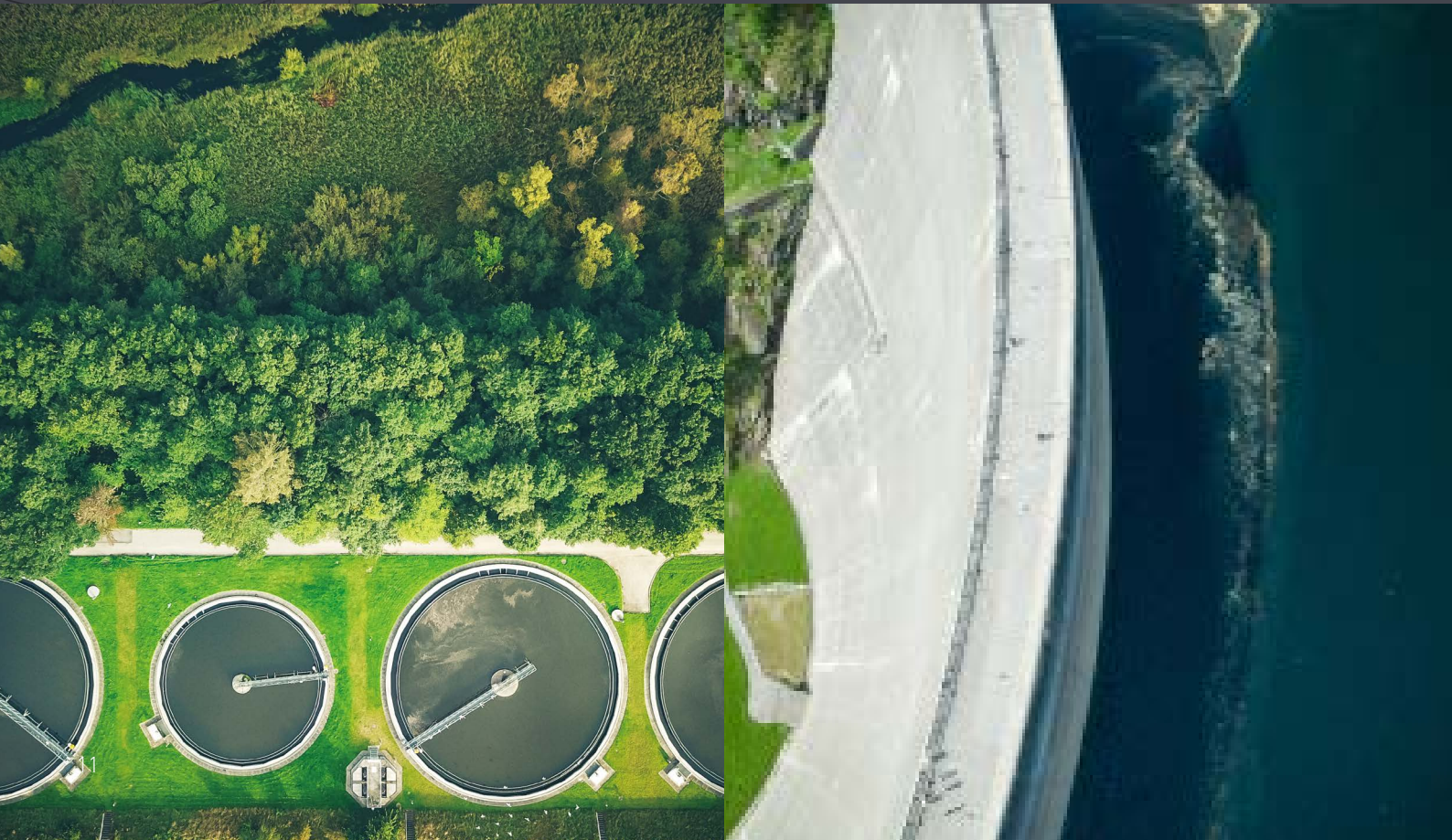
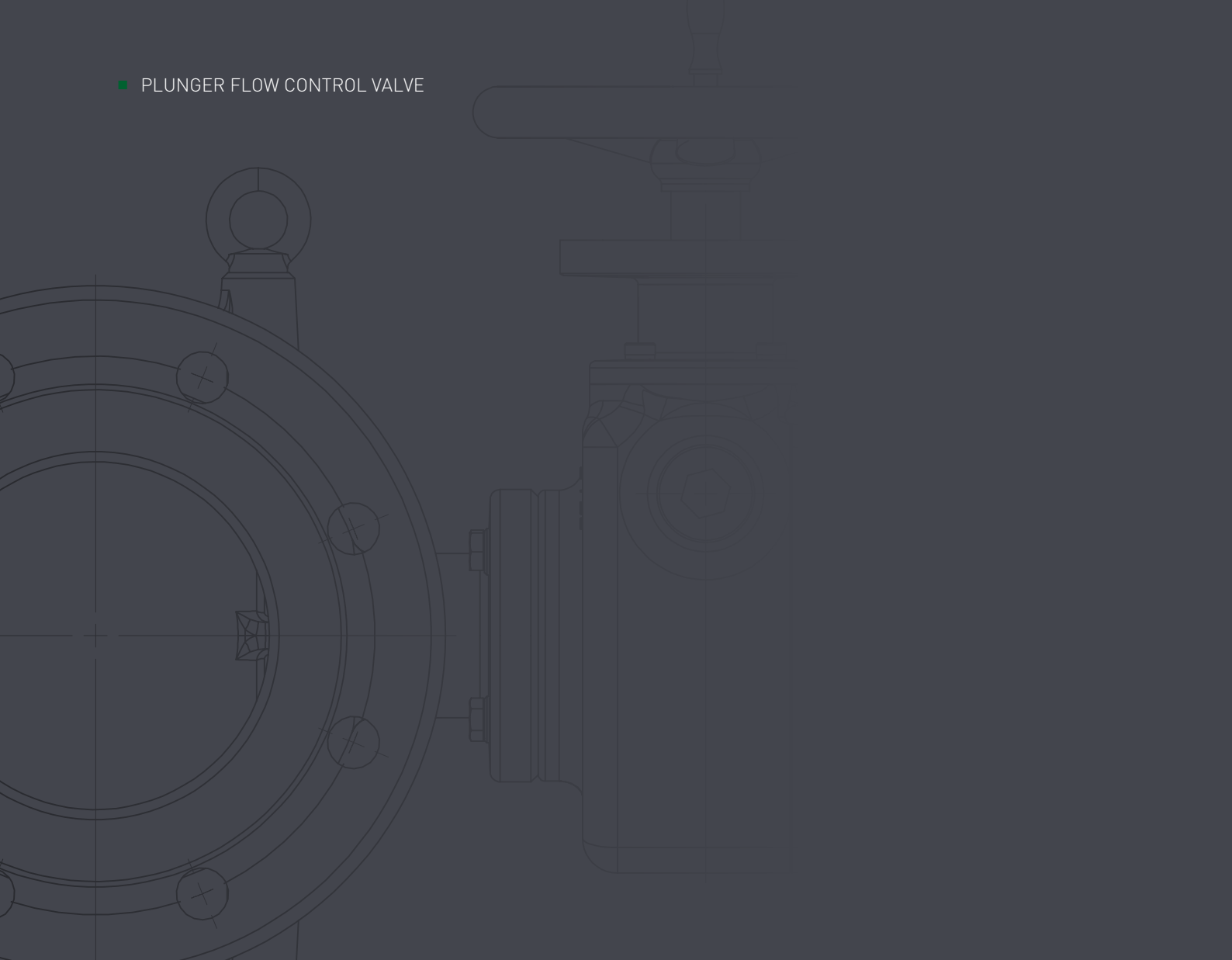
DN	200	250	300	350	400	500	600	700	800	900	1000
D [mm]	375	450	515	580	660	755	890	995	1140	1250	1360
D1 [mm]	250	250	250	250	250	250	250	315	315	400	400
D2 [mm]	31	34	34	37	41	44	50	48	56	56	56
B ³ [mm]	30	34,5	39,5	43,5	48	52	58	64	72	76	80
e1 [mm]	160	164	185	200	200	245	275	-	-	-	400
e2 [mm]	262	287	345	440	470	555	610	-	-	-	999
e3 [mm]	205	240	270	390	420	480	535	-	-	-	854
K [mm]	320	385	450	510	585	670	795	900	1030	1140	1250
L ¹ [mm]	400	450	500	550	600	700	800	1000	1100	1200	1300
Holes [nr]	12	12	16	16	16	20	20	24	24	28	28
Weight ² [kg]	122	165	265	350	435	880	1020	1650	2300	3050	3950

PN 64

DN	200	250	300	350	400
D [mm]	415	470	530	600	670
D1 [mm]	250	250	250	250	250
D2 [mm]	37	37	37	41	44
B ³ [mm]	46	50	57	61	65
e1 [mm]	160	164	185	218	238
e2 [mm]	280	315	345	465	495
e3 [mm]	205	240	270	390	420
K [mm]	345	400	460	525	585
L ¹ [mm]	400	450	500	585	636
Holes [nr]	12	12	16	16	16
Weight ² [kg]	150	195	285	490	640

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- 1: Face to face dimension according to EN 558 series 15 (DN350 and DN400 PN64, DN700, DN800, DN900 and DN1000 PN40 excluded)
- 2: Gearbox included
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■ PLUNGER FLOW CONTROL VALVE



Applications

- Water treatment
- Industry water
- Waste water
- Dams & hydropower



Notes



Website

www.affco-flowcontrol.com

AFFCO Flow Control (Shanghai) Co., Ltd
No. 99 Desheng Road, Economic and Technological
Development Area, Feng Xian, Shanghai 201411

Tel: +86 (21) 5814 7016

Fax: +86 (21) 5814 7885

Email: sales@affco-flowcontrol.com

AFFCO Flow Control Europe B.V.
Opweg 90a

2871 NG Schoonhoven

The Netherlands

Tel: +31 (0) 85 877 27 56

Fax: +31 (0) 85 782 51 01

Email: europe@affco-flowcontrol.com

AFFCO Flow Control Pte Ltd

237, Pandan Loop, #05-04, Westech Building Singapore
128424

Tel : +65 65709920

Fax : +65 65709923

Email: info@affco.com.sg

AFFCO Flow Control Mideast FZE SAIF

Suite Y-16 P.O. BOX 123612 Sharjah –
U.A.E.

Tel: +971 6 5220879

Email: infoME@affco-flowcontrol.com

AFFCO Flow Control UK Ltd

Unit 7, Stafford Park 12, Telford,

Shropshire, TF3 3BJ, England

Tel : +44 (0)1952 459 338

Email: sales@affco-flowcontrol.co.uk