

FEATURES

- Operators intended for use in potentially explosive dust atmospheres in compliance with ATEX-Directive 94/9/EC
- Compliance with the Essential Health and Safety Requirements has been assured by compliance with European Standards **EN 50014** and **EN 50281-1-1**
- The assembly consisting of the coil and connector has IP65 protection
- CM22/C22A coils are equipped with a size 22 spade plug connector with cable gland (cable diameter 6 to 8 mm) or a 2 m flying lead; CM25 and CM30 coils have size 30 spade plug connectors to ISO 4400 and a cable gland (cable diameter 6 to 10 mm) or a 2 m flying lead
- The coils can be fitted to the following valves:
 - Type CM22: series 108, 109, 189 189 banjo and 238 solenoid valves, series 551 solenoid spool valves
 - Type C22A: series 256, 356 and 238 solenoid valves (except 256-356 manifold versions)
 - CM25: series 190 and 238 solenoid valves, series 552-553 solenoid spool valves
 - Type CM30: series 192 solenoid valves



CONSTRUCTION

Coil	CM22/C22A/CM25	Moulded epoxy resin or thermoplastic encapsulant
	CM30	Moulded epoxy resin encapsulant
Connector enclosure	All	Glass-filled polyamide
Connector specification	CM22/C22A	DIN 43650, 11 mm, industry standard B
	CM25/CM30	ISO 4400 / EN 175301-803, form A
Spade plug connector	CM22/CM22A	Cable diameter 6 to 8 mm or cable outlet
	CM25/CM30	Cable diameter 6 to 10 mm or cable outlet
Wire cross-section	All	1,5 mm ²
Electrical enclosure protection	All	IP65 (EN 60529)
Safety code	All	⊕ II 3 D IP65 T 85°C to T 135°C

ELECTRICAL CHARACTERISTICS

Standard voltages	DC (=) : 24V - 48V
(Other voltages and 60 Hz on request)	AC (-) : 24V - 48V - 115V - 230V / 50 Hz

TEMPERATURE CLASSIFICATION TABLES

AC (~) Solenoids

Pn (watt)	solenoid size				maximum ambient °C ⁽¹⁾ surface temperature			
	CM22	C22A	CM25	CM30	85°C	100°C	135°C	200°C
	insulation class F (155°C) 100% E.D.							
2,5	•				40	60		
3			•		40	60		
4	•				25	40	60 ⁽²⁾	
4 ⁽⁴⁾		•			25	40	60	
4			•			25	60	
5			•		25	40	60 ⁽³⁾	

DC (=) Solenoids

Pn (watt)	solenoid size				maximum ambient °C ⁽¹⁾ surface temperature			
	CM22	C22A	CM25	CM30	85°C	100°C	135°C	200°C
	insulation class F (155°C) 100% E.D.							
2,5/3	•				40	60		
3/3,5			•		40	60		
5/6,9	•					25	60 ⁽²⁾	
4,5/5,5 ⁽⁴⁾		•				25	60	
5/6			•		25	40	60	
5/6,9			•		25	40	60 ⁽³⁾	

Check the wattage compatibility with the product selected.

⁽¹⁾ The minimum allowable ambient temperature is -25°C for the operator. Actual temperature range can be limited depending on valve operation limits.

⁽²⁾ Only for series 238 and 551.

⁽³⁾ Only for series 238, 552 and 553.

⁽⁴⁾ Only for series 256, 356 and 238 (except manifold versions).

SPECIFICATION

designation	option code ⁽¹⁾	
With cable gland connector	(Versions A and B) DU	
Complete solenoid valve equipped with a type CM22, C22A, CM25 or CM30 coil + spade plug connector with cable gland		
With flying lead connector	(Version A)	(Version B)
Complete solenoid valve equipped with:		
a type CM22/C22A coil and spade plug connector size 22 with lead (2 m lead)	DU .. 660518	DUX .. TPL 20651
a type CM25 or CM30 coil and spade plug connector size 30 with lead (2 m lead)	DU .. 660519	DUX .. TPL 20651

⁽¹⁾ Applicable for the complete catalogue number of a solenoid valve including coil and connector.

ORDERING EXAMPLES:

version A Series 108, 109, 189, 189 banjo, 190, 192, 541 compact and 551		version B Series 238, 256, 356, 551, 552 and 553	
With cable gland connector			
DU 18900032 . 230V / 50 Hz DU 18900001 . 24V / DC DU 19200002 . 115V / 50 Hz DU 55102005 . 230V / 50 Hz	option code for ATEX compliance solenoid valve catalogue number voltage	SC DU E238A001 . 230V / 50 Hz SC DU G256A002VMS . 115V / 50 Hz SC DU G356A001VMS . 230V / 50 Hz SC DU G551A001MS . 230V / 50 Hz	option code for ATEX compliance (prefix) solenoid valve catalogue number voltage
With flying lead connector			
DU 18900032 . 660518 . 230V / 50 Hz DU 18900001 . 660518 . 24V / DC DU 19200002 . 660519 . 115V / 50 Hz DU 55102005 . 660518 . 230V / 50 Hz	option code for ATEX compliance solenoid valve catalogue number voltage option code connector with lead	SC DU X E238A001 . 20651 . 230V / 50 Hz SC DU X G256A002VMS . 20651 . 115V / 50 Hz SC DU X G356A001VMS . 20651 . 230V / 50 Hz SC DU X G551A001MS . 20651 . 230V / 50 Hz	option code for ATEX compliance (prefix) solenoid valve catalogue number voltage option code connector with lead

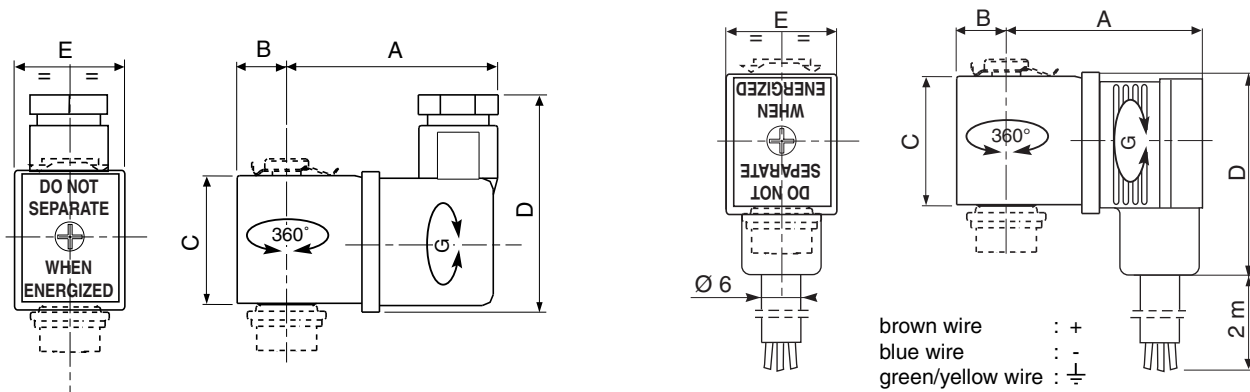
INSTALLATION

- The package consists of the solenoid valve, the coil (installed) and the connector (not installed)
- The coil is provided with an earthing connection
- The operator can be rotated through 360° to select the most favourable position for cable entry
- Easy connection with spade plug connector
- Installation/maintenance instructions are included with each coil

DIMENSIONS (mm), WEIGHT (kg)



TYPE DU
 "DU" Solenoid
 EN 50281-1-1
 IP65 / II 3 D IP65 T 85°C to T 135°C



solenoid size + connector	A	B	C	D	E	G	weight ⁽¹⁾
CM22/C22A + cable gland connector	48,5	11,5	29	49	22	180°	0,077
CM22/C22A + flying lead connector	42	11,5	29	47	22	0°	0,207
CM25 + cable gland connector (3W/5W)	55/56,2	15	29,1/31,9	56,7	30	4 x 90°	0,135/0,140
CM25 + flying lead connector (3W/5W)	46,5/47,8	15	29,1/31,9	45,65	30	0°	0,260/0,265
CM30 + cable gland connector	55,4	15	38,5	60,7	30	4 x 90°	0,155
CM30 + flying lead connector	46,9	15	38	49,65	30	0°	0,275

⁽¹⁾ including coil and connector.

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- Operators intended for use in potentially explosive dust atmospheres in compliance with ATEX-Directive 94/9/EC
- Compliance with the Essential Health and Safety Requirements has been assured by compliance with European Standards **EN 50014** and **EN 50281-1-1**
- The assembly consisting of the coil and connector has IP65 protection
- Easy electrical installation by means of a spade plug connector
- The operator is available as both a push or pull type solenoid and can be supplied on a wide range of valves

CONSTRUCTION

Coil	All	Moulded epoxy resin
Connector enclosure	All	Glass-filled polyamide
Connector specification	XM5	DIN 43650, 11 mm, industry standard B
	M6-MXX-M12	ISO 4400 / EN 175301-803, form A
Cable diameter	XM5	6 to 8 mm
	M6-MXX-M12	6 to 10 mm
Wire cross-section	All	1,5 mm ²
Electrical enclosure protection	All	IP65 (EN 60529)
Safety code	All	⊕ II 3 D IP65 T 85°C to T 200°C

ELECTRICAL CHARACTERISTICS

Standard voltages	DC (=) : 24V - 48V
(Other voltages and 60 Hz on request)	AC (~) : 24V - 48V - 115V - 230V / 50 Hz

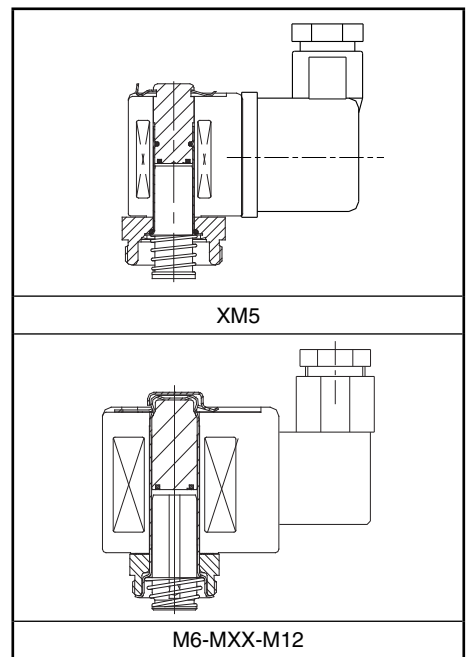
TEMPERATURE CLASSIFICATION TABLES

AC (~) Solenoids

Pn (watt)	solenoid size				maximum ambient °C ⁽¹⁾			
	XM5	M6	MXX	M12	surface temperature			
					85°C	100°C	135°C	200°C
insulation class F (155°C) 100% E.D.								
1,2 ⁽²⁾			•		60			
1,5 ⁽²⁾			•		60			
1,85 ⁽²⁾			•		60	75	100	
2,5	•				40	60		
3,7 ⁽²⁾			•		60	75	100	
4,0	•				40	60		
5,8 ⁽²⁾			•		50	75	100	
6,0		•					75	
6,3	•						40	75
9,0		•					40	50
10,0 ⁽²⁾			•		40	75		
10,0 ⁽²⁾			•		50	100		
10,5			•		40	75		
13,4 ⁽²⁾			•		75			
14,1 ⁽²⁾			•		75	90		
15,4			•				75	
16,5 ⁽²⁾			•		75			
16,7			•				50	
20,0			•				50	
insulation class H (180°C) 100% E.D.								
6,0		•					75	100
9,0		•					40	75
10,5			•				40	100
15,4			•					100
16,7			•					75
20,0			•					60
insulation class F (155°C) 10% E.D.								
6,0		•			60	75		
10,0	•				60	75		
10,5			•		60	75		
16,7			•		60	75		

DC (=) Solenoids

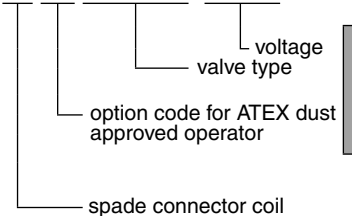
Pn (watt)	solenoid size				maximum ambient °C ⁽¹⁾			
	XM5	M6	MXX	M12	surface temperature			
					85°C	100°C	135°C	200°C
insulation class F (155°C) 100% E.D.								
1,3				•	60			
1,7			•		60			
1,8				•	60	75	100	
3,0	•				40	60		
3,6				•	60	75	100	
5,7				•	50	75	100	
6,9	•					40	75	
8,6	•							40
9,7		•			40	75		
10,0				•	50	100		
10,7				•	50	100		
11,0				•			40	75
11,2				•	40	75		
14,0				•		75	90	
15,3		•				50		
16,8				•			75	
19,7				•			40	
23,0				•			40	
insulation class H (180°C) 100% E.D.								
9,7		•			40	75	100	
11,2			•		40	75	100	
13,3		•				60		
15,3		•				60	75	
16,8				•			75	100
17,4				•			50	60
19,7				•			50	
20,8		•					40	
23,0				•			40	75
26,6				•			40	60
29,5				•				40
36,2				•				40
insulation class F (155°C) 10% E.D.								
11,2			•		60	75		
19,7			•		60	75		
20,8		•			60	75		
22,0	•				40	60	75	
30,0			•		40	60	75	



ORDERING INFORMATION

A valve supplied with the explosionproof operator will be identified with prefix **SCDU** before the catalogue number.

Example: **SC DU** G327A001 . 24V/DC



Check the wattage compatibility with the product selected.

⁽¹⁾ The minimum allowable ambient temperature is **-40°C for the operator**. Actual temperature range can be limited depending on valve operation limits.

⁽²⁾ AC (~) rectified coil construction.

INSTALLATION

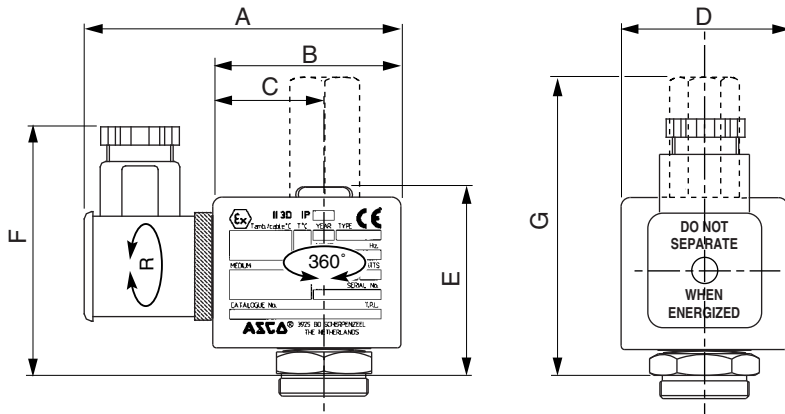
- The coil is provided with an earthing connection
- The operator can be rotated through 360° to select the most favourable position for cable entry
- Easy connection with spade plug connector
- Installation/maintenance instructions are included with each coil

DIMENSIONS (mm), WEIGHT (kg)



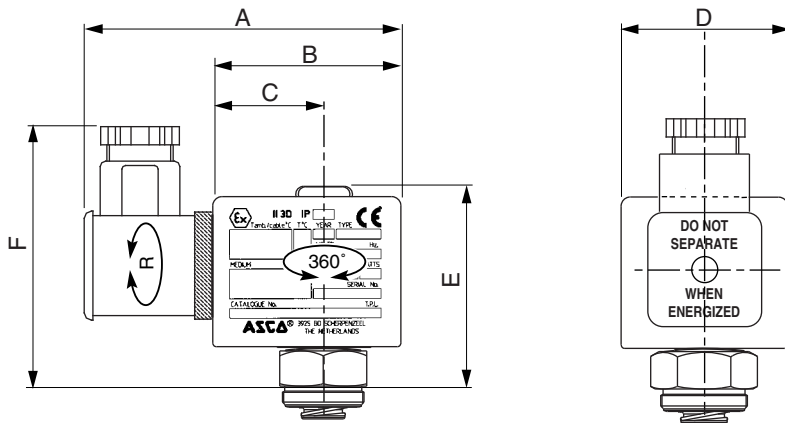
TYPE SCDU
 "SCDU" Solenoid
 EN 50281-1-1
 IP65 / II 3 D IP65 T 85°C to T 200°C

Pull type solenoid operators



size	A	B	C	D	E	F	G	R	weight ⁽¹⁾
M5	59	28	17	22	34	52	54	180°	0,1/0,15
M6	80	45	28	39	46	63	-	4 x 90°	0,2
MXX	85	50	30	45	53	67	78	4 x 90°	0,3/0,35
M12	91	56	33	50	57	58	-	4 x 90°	0,4

Push type solenoid operators



size	A	B	C	D	E	F	R	weight ⁽¹⁾
MXX	85	50	30	45	61	74	4 x 90°	0,35
M12	91	56	33	50	68	65	4 x 90°	0,45

⁽¹⁾ including coil and connector.

FEATURES

- Operators intended for use in potentially explosive dust atmospheres in compliance with ATEX-Directive 94/9/EC
- Compliance with the Essential Health and Safety Requirements has been assured by compliance with European Standards **EN 50014** and **EN 50281-1-1**
- Easy electrical installation by means of a screw terminal coil
- The solenoid enclosure has a cable gland with integral strain relief for cables with a diameter from 7 to 12 mm
- Ingress protection degree IP67
- The operator is available as both a push or pull type solenoid and can be supplied on a wide range of valves

CONSTRUCTION

Solenoid enclosure	WPDU	Zinc plated steel (epoxy coated)
	WSDU	Stainless steel, AISI 316
Cable gland	All	PA
Core, core tube & plugnut	All	Stainless steel
Shading coil	All	Copper or silver
Electrical enclosure protection	All	IP67 (EN 60529)
Safety code	All	⊕ II 3 D IP67 T 85°C to T 200°C

ELECTRICAL CHARACTERISTICS

Standard voltages	DC (=) : 24V - 48V
(Other voltages and 60 Hz on request)	AC (~) : 24V - 48V - 115V - 230V / 50 Hz

TEMPERATURE CLASSIFICATION TABLES

AC (~) Solenoids

Pn (watt)	solenoid size				maximum ambient °C ⁽¹⁾			
	XM5	M6	MXX	M12	surface temperature			
					85°C	100°C	135°C	200°C
insulation class F (155°C) 100% E.D.								
1,2 ⁽²⁾			•	60				
1,5 ⁽²⁾			•	60				
1,85 ⁽²⁾			•	60	75	90		
3,7 ⁽²⁾			•	60	75	90		
5,8 ⁽²⁾			•	40	60	90		
6,0	•					50	75	
9,0	•						50	
10,0 ⁽²⁾			•			75		
10,0 ⁽²⁾			•				75	
10,5			•				75	
13,4 ⁽²⁾			•			40	75	
14,1 ⁽²⁾			•			50	90	
15,4			•				40	
16,5 ⁽²⁾			•			40	75	
insulation class H (180°C) 100% E.D.								
6,0	•					50	90	
9,0	•						75	
10,5			•				90	
15,4			•				40	
16,7			•				40	
insulation class F (155°C) 10% E.D.								
6,0	•			40	60	75		
10,5			•	40	60	75		
16,7				40	60	75		

Check the wattage compatibility with the product selected.

⁽¹⁾ The minimum allowable ambient temperature is -40°C for the operator. Actual temperature range can be limited depending on valve operation limits.

⁽²⁾ AC (~) rectified coil construction.

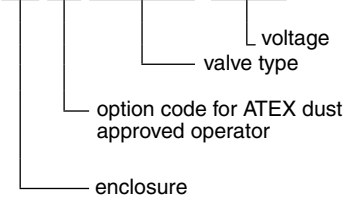
DC (=) Solenoids

Pn (watt)	solenoid size				maximum ambient °C ⁽¹⁾			
	XM5	M6	MXX	M12	surface temperature			
					85°C	100°C	135°C	200°C
insulation class F (155°C) 100% E.D.								
1,3			•	60				
1,7			•	60				
1,8			•	60	75	90		
3,6			•	60	75	90		
5,7			•	40	60	90		
9,7	•					60	75	
9,7	•					90		
9,7	•					75		
10,0			•			75		
11,0			•				75	
11,2			•			60	75	
14,0			•			50	90	
15,3	•					40	50	
16,8			•			40	75	
19,7			•				40	
23,0			•				50	
insulation class H (180°C) 100% E.D.								
9,7	•					60	100	
9,7	•					75	90	
9,7	•					75		
11,2			•			50	90	
13,3	•					40	60	
15,3	•					40	75	
16,8			•			40	75	
16,8			•			40	90	
16,8			•				75	
17,4			•				60	
19,7			•				50	
20,8	•						40	
23,0			•				75	
26,6			•				60	
insulation class F (155°C) 10% E.D.								
11,2			•	60	75			
19,7			•	40	60	75		
20,8	•			40	60	75		
30,0			•	40	60	75		

ORDERING INFORMATION

A valve supplied with the explosionproof operator will be identified with prefix **WPDU** or **WSDU** before the catalogue number.

Example: **WP DU** G327A001 . 24V/DC



INSTALLATION

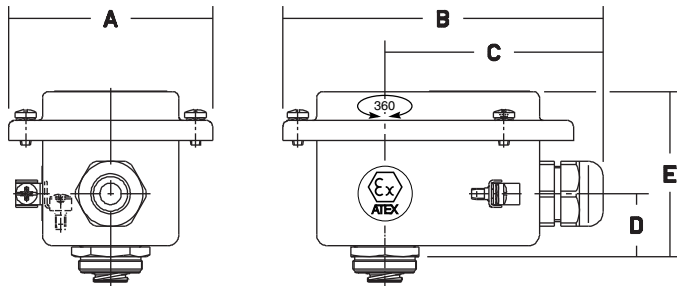
- The package consists of the solenoid valve and operator (installed)
- Internal and external earthing connection
- The operator can be rotated through 360° to select the most favourable position for cable entry
- Installation/maintenance instructions are included with each coil

DIMENSIONS (mm), WEIGHT (kg)

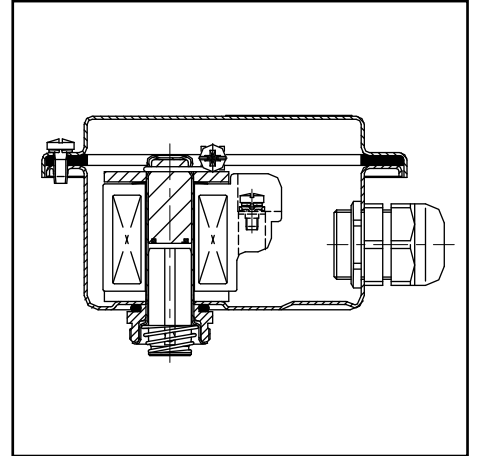


TYPE WPDU/WSDU
 "WPDU", "WSDU" Solenoid
 EN 50281-1-1
 IP67 / II 3 D IP67 T 85°C to T 200°C

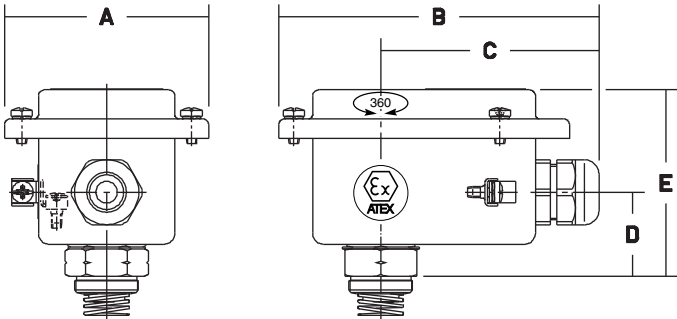
Pull type solenoid operator



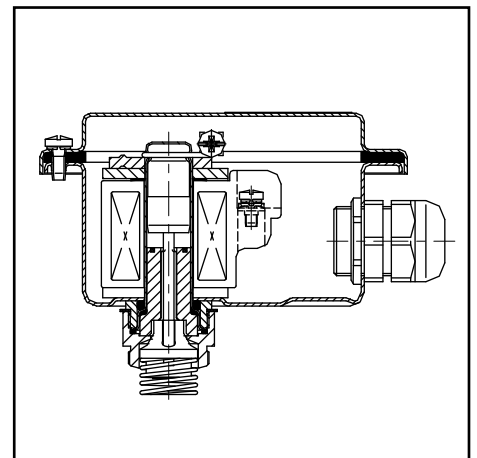
size	A	B	C	D	E	weight
WPDU/WSDU-M6	77	120	82	26	64	0,48
WPDU/WSDU-MXX	77	120	82	23	62	0,55
WPDU/WSDU-M12	77	120	82	21	65	0,67



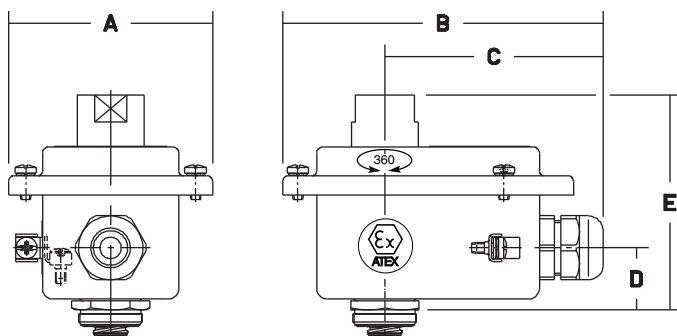
Push type solenoid operator



size	A	B	C	D	E	weight
WPDU/WSDU-M6	77	120	82	25	63	0,50
WPDU/WSDU-MXX	77	120	82	31	69	0,59
WPDU/WSDU-M12	77	120	82	30	73	0,70



Pull type solenoid operator



size	A	B	C	D	E	weight
WPDU/WSDU-MXX	77	120	82	23	80	0,68

