



OPERATORS

for potentially explosive atmospheres
flameproof enclosure

Series
NF/WSNF
PV

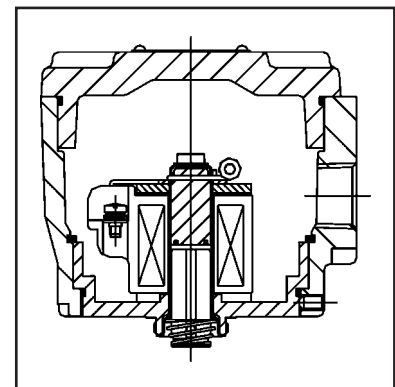
CONSTRUCTION (NF/WSNF Prefix)

Solenoid Enclosure	NF	Chromated aluminium, epoxy coated
	WSNF	Stainless steel (AISI 316L SS)
Bonnet	NF	Steel (zinc plated)
	WSNF	Stainless steel (nickel plated)
Core, Tube, Springs & Plugnut	all	Stainless steel
Shading Coil	all	Copper or silver
Nameplate	NF	Stainless steel
Coil Connection	WSNF	Stainless steel
Fasteners & Screws	all	Embedded screws terminals
	all	Stainless steel



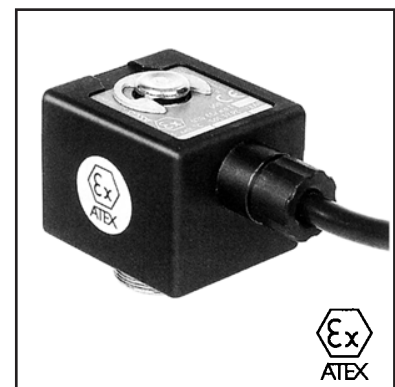
G/D EEx d IIC CERTIFICATION

Pipe Size	Orifice Size (mm)	Flow Coefficient Kv		Operating Pressure Differential (bar)		Catalog Number
		(m ³ /h)	(l/min)	min.	max.	
G - Threaded pipe connection						
3/4"	25	14	233	0.35	8.5	(WS)NF G353A043(AC/DC)
1"	25	17	283	0.35	8.5	(WS)NF G353A044(AC/DC)
1 1/2"	52	46	768	0.35	8.5	(WS)NF G353A047(AC/DC)
2"	66	77	1290	0.35	8.5	(WS)NF G353A050(AC/DC)
2 1/2"	66	92	1540	0.35	8.5	(WS)NF G353A051(AC/DC)
3"	75	170	2833	1.0	6.0	(WS)NF G353.060(AC/DC)
Ø - Compression fitting pipe connection						
3/4"	25	14	233	0.35	8.5	(WS)NF G353.052(AC/DC)
1"	25	17	283	0.35	8.5	(WS)NF G353.053(AC/DC)
1 1/2"	52	43	717	0.35	8.5	(WS)NF G353A065(AC/DC)



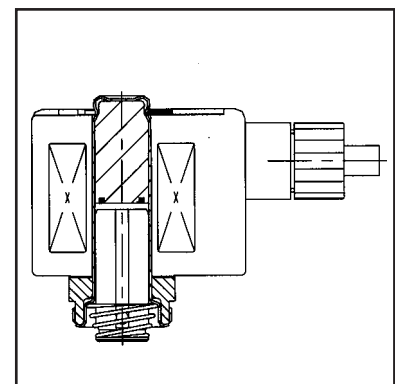
CONSTRUCTION (PV Prefix)

Solenoid Enclosure	Epoxy encapsulated
Core Tube	Stainless steel
Plugnut	Stainless steel
Shading Coil	Copper or silver
Nameplate	Polyester
Safety Code	IECEEx / Ex II 2G Ex mb IIC T5..T3 Gb
	IECEEx / Ex II 2D Ex mb IIIC 100°C ..200°C Db IP67



CERTIFICATION

Pipe Size	Orifice Size (mm)	Flow Coefficient Kv		Operating Pressure Differential (bar)		Catalog Number
		(m ³ /h)	(l/min)	min.	max.	
G - Threaded pipe connection						
3/4"	25	14	233	0.35	8.5	PV G353A043(AC/DC)
1"	25	17	283	0.35	8.5	PV G353A044(AC/DC)
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2"	66	77	1290	0.35	8.5	PV G353A050(AC/DC)
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3"	75	170	2833	1.0	6.0	PV G353.060(AC/DC)
Ø - Compression fitting pipe connection						
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OPERATORS

for potentially explosive atmospheres

Series
EM
EF/VCEF

CONSTRUCTION (EM Prefix)

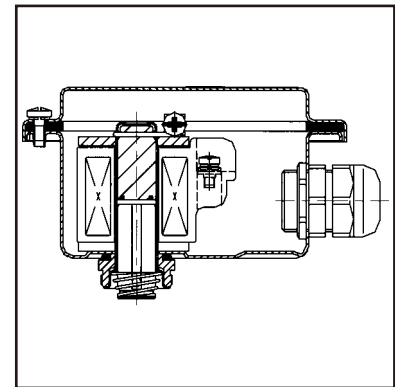
Solenoid Enclosure	Zinc plated epoxy coated steel
Cable Gland	PA (polyamide) , M20x1.5
Cable Gland Sealing	NBR (nitrile)
Core, Core Tube & Plugnut	Stainless steel
Shading Coil	Copper or silver
Nameplate	Polyester
Coil Connection	Embedded screw terminals



G EEx em II CERTIFICATION

Pipe Size	Orifice Size (mm)	Flow Coefficient Kv		Operating Pressure Differential (bar)		Catalog Number
		(m ³ /h)	(l/min)	min.	max.	
G - Threaded pipe connection						
3/4"	25	14	233	0.35	8.5	EM G353A043(AC/DC)
1"	25	17	283	0.35	8.5	EM G353A044(AC/DC)
1 1/2"	52	46	768	0.35	8.5	EM G353A047(AC/DC)
2"	66	77	1290	0.35	8.5	EM G353A050(AC/DC)
2 1/2"	66	92	1540	0.35	8.5	EM G353A051(AC/DC)
3"	75	170	2833	1.0	6.0	EM G353.060(AC/DC)
Ø - Compression fitting pipe connection						
3/4"	25	14	233	0.35	8.5	EM G353.052(AC/DC)
1"	25	17	283	0.35	8.5	EM G353.053(AC/DC)
1 1/2"	52	43	717	0.35	8.5	EM G353A065(AC/DC)

*X=TPL 22259 (M12 em-coil)

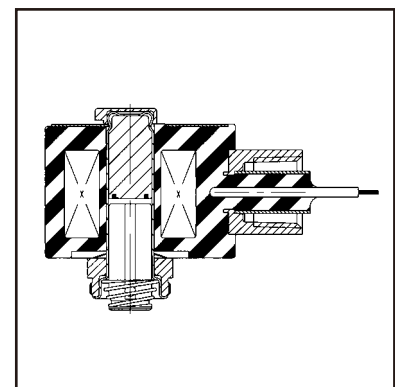


CONSTRUCTION (EF/VCEF Prefix)

Encapsulant	Thermosetting epoxy-resin
Core Tube	Stainless steel
Core & Plugnut	Stainless steel
Core Spring	Stainless steel
Sealings & Discs	NBR
Top Disc (3 way)	PA
Disc Holder	CA
Cartridge	Welded, packless AISI 430
Cartridge Seat	Brass
Seat Insert	CA
Shading Coil	Copper
Ridering (Low Power)	PTFE
Nameplate	Stainless steel
Conduit Hub	1/2" NPT zinc plated carbon steel



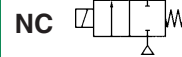
Pipe Size	Orifice Size (mm)	Flow Coefficient Kv		Operating Pressure Differential (bar)		Catalog Number
		(m ³ /h)	(l/min)	min.	max.	
G - Threaded pipe connection						
3/4"	25	14	233	0.35	8.5	EF/VCEF G353G043
1"	25	17	283	0.35	8.5	EF/VCEF G353G044
1 1/2"	52	46	768	0.35	8.5	EF/VCEF G353G047
2"	66	77	1290	0.35	8.5	EF/VCEF G353G050
2 1/2"	66	92	1540	0.35	8.5	EF/VCEF G353G051
3"	75	170	2833	1.0	6.0	EF/VCEF G353G060
Ø - Compression fitting pipe connection						
3/4"	25	14	233	0.35	8.5	EF/VCEF G353G052
1"	25	17	283	0.35	8.5	EF/VCEF G353G053
1 1/2"	52	43	717	0.35	8.5	EF/VCEF G353G065
Immersion type						
3"	75	170	2833	1.0	6.0	EF/VCEF R353G060
3"	76	210	3500	1.0	6.0	EF/VCEF R353G230
3 1/2"	90	280	4667	1.0	6.0	EF/VCEF R353G235





PILOT VALVES

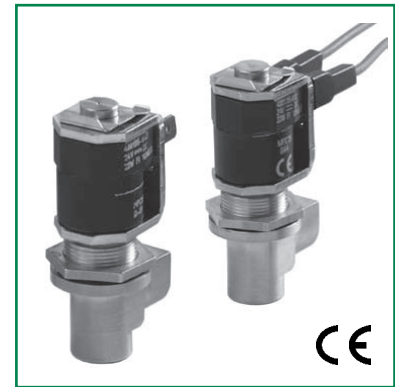
normally closed, direct operated
 threaded body, 1/8 and M10
 Ø6 mm push-in fitting



2/2
 Series
 257

FEATURES

- Two way NC pilot valves for dust collector service
- Normally closed direct acting
- Rugged forged brass body construction
- Designed for panel mounting
- Compact, low weight construction
- The components satisfy all relevant EC directives



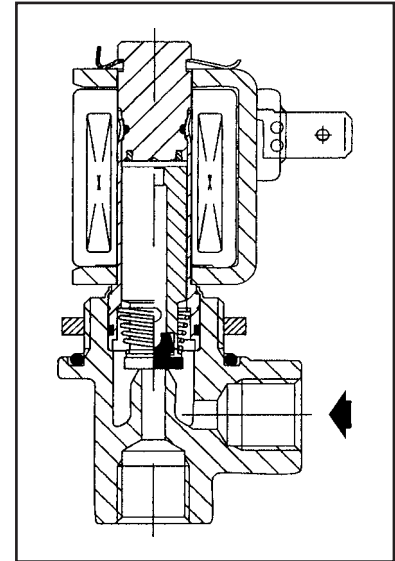
GENERAL

Differential pressure (PS) 0 - 8.5 bar [1 bar=100kPa]
 Response times 8ms

Fluids	Temperature Range (TS)	Seal Material
air	0°C ~ +75°C	Neoprene

CONSTRUCTION

Body	Brass
Core tube	Stainless steel
Core and plugnut	Stainless steel
Springs	Stainless steel
Shading coil	Copper
Connection	Spades 2x DIN-46244 (A 6.3x0.8) or leaded coil 460 mm



ELECTRICAL CHARACTERISTICS

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

Coil Type	Nominal Power Ratings				Ambient Temperature Range (°C)	Protection
	Inrush ~ (VA)	Holding ~ (VA) (W)		Hot/Cold = (W)		
		Min	~			
UCM22-F1 ⁽¹⁾	20.4	13.6	10	15/22	0 ~ +75	IP00

SPECIFICATIONS

Pipe Connection		Orifice Size (mm)	Flow Coefficient Kv		Operating Pressure Differential (bar)			Coil Type		Catalog Number Coil Connection	
Inlet	Outlet		(m³/h)	(l/min)	Min	Max (PS)		~	=	Spades	Leaded
Threaded pipe connection											
Rp 1/8	Rp 1/8	3.6	0.35	5.8	0	8.5	8.5	UCM22-FI	UCM22-FI	US E257A001	UL E257A001
Integrated push-in fitting											
Ø6mm	Rp1/8	3.6	0.35	5.8	0	8.5	8.5	UCM22-FI	UCM22-FI	US E257A002	UL E257A002
Threaded inlet for compression fitting for 6 mm nut + olive (legris)											
M10 X 1.0	Rp1/8	3.6	0.35	5.8	0	8.5	8.5	UCM22-FI	UCM22-FI	US E257A003	UL E257A003

⁽¹⁾ Intermittent duty, Relative Duty Time is 10%. Max. on time 1 min.

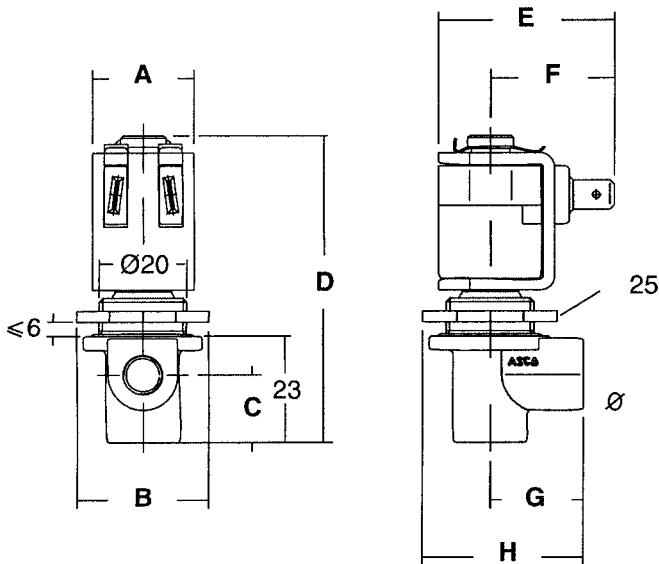
OPTIONS

- Epoxy moulded leaded coils or coils with spade plug connector (3 x DIN-46244)
- Pipe connection E = Rp (ISO 7/1) or compression type fitting inlet
- Pilot valves can be equipped with explosion proof solenoids for hazardous locations according to "ATEX" and national standards

INSTALLATION

- The solenoid valves are open frame constructions, designed for panel mount or stand alone and can be installed in any position without affecting operation
- Recommended maximum panel thickness is 6.0 mm and panel passage Ø 20 mm
- Installation/maintenance instructions are included with each valve
- Replacement coils are available

DIMENSIONS (mm), WEIGHT (kg)



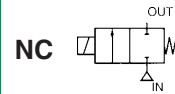
Catalog Number E257	A	B	C	D	E	F	G	H	Weight ⁽¹⁾
All types	22	29	15	67	38	27	20	34	0.18

⁽¹⁾ Including coil(s) and connector(s)



PILOT VALVE BOXES

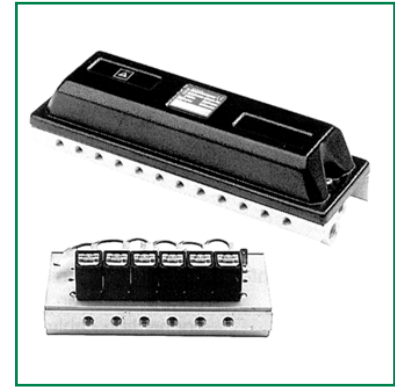
containing 2 to 12 valves 2/2 normally closed, direct operated
1/8"



2/2
Series
110

FEATURES

- Compact pilot boxes with direct operated, integrated pilot valves
- Especially designed for the remote control of pulse valves (series 353)
- Valve seats are integrated in base plate
- Common exhaust connection for just 1 or 2 (G 3/8") silencers
- Built-in heating elements for trouble free operation at low ambient temperatures
- Degree of protection: IP 65
- Facilities for integrated quick fittings



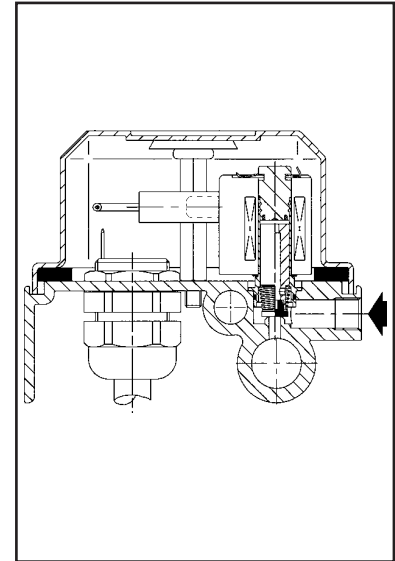
GENERAL

Differential pressure (PS) 0 - 8.5 bar [1 bar=100kPa]
Response times 5 - 25ms

Fluid	Temperature Range (TS)	Seal Material
air	-40°C ~ +80°C	Neoprene

CONSTRUCTION

Base-plate	Anodised aluminium
Cover	ABS (polysterene) UV stabilized
Core tube	Brass
Core and plugnut	Stainless steel
Spring	Stainless steel
Disc	NBR
Shading coil	Copper
Coil insulation class	F
Electrical connection	Spades according to DIN 46244



ELECTRICAL CHARACTERISTICS

Standard voltages⁽³⁾ DC (=): 24V
(Other voltages and 60 Hz on request) AC (~): 24V -115V-230V/50Hz

Coil Type	Nominal Power Ratings ⁽²⁾				Ambient Temperature Range (°C)	Protection
	Inrush ~ (VA)	Holding ~ (VA) (W)		Hot/Cold = (W)		
UCM22-F1 ⁽¹⁾	20.4	14	10	22	-40 ~ +85	Moulded

SPECIFICATIONS

Number of Pilot Valves	Pipe Size G	Orifice Size (mm)	Flow Coefficient Kv (m³/h) (l/min)		Operating Pressure Differential (bar)		Catalog Number for the Boxes		
					Min.	Max	without Heating	1 Heating Element ⁽⁴⁾	2 Heating Elements ⁽⁴⁾
2	1/8"	3.6	0.35	5.8	0	8.5	S G110A020	S G110A021	-
3							S G110A030	S G110A031	-
4							S G110A040	S G110A041	-
5							S G110A050	S G110A051	-
6							S G110A060	S G110A061	-
7							S G110A070	S G110A071	S G110A072
8	S G110A080	S G110A081	S G110A082						
9	S G110A090	S G110A091	S G110A092						
10	S G110A100	S G110A101	S G110A102						
11	S G110A110	S G110A111	S G110A112						
12	S G110A120	S G110A121	S G110A122						

⁽¹⁾ Intermittent duty, Relative Duty Time is 10%. Max on time is 1 min.

⁽²⁾ Heating element(s) rating 80 watt each.

⁽³⁾ Heating element(s) 220-240 VDC / VAC 50-60 Hz standard

⁽⁴⁾ inimum ambient temperature without heating elements : 0°C

- Minimum ambient temperature with 1 heating element : -40°C (2 to 6 pilots)

: -15°C (7 to 12 pilots)

- Minimum ambient temperature with 2 heating elements : -40°C (7 to 12 pilots)

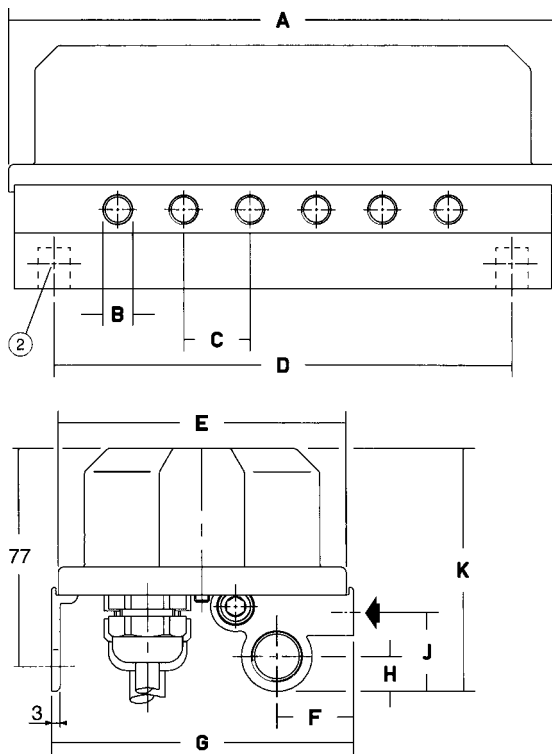
OPTIONS

- Pilot boxes with metal cover for harsh conditions and dust approved to ATEX heavy duty applications (prefix: WP)
- Integrated quick fittings for 6 or 8 mm tubes
- Special customer adapted executions

INSTALLATION

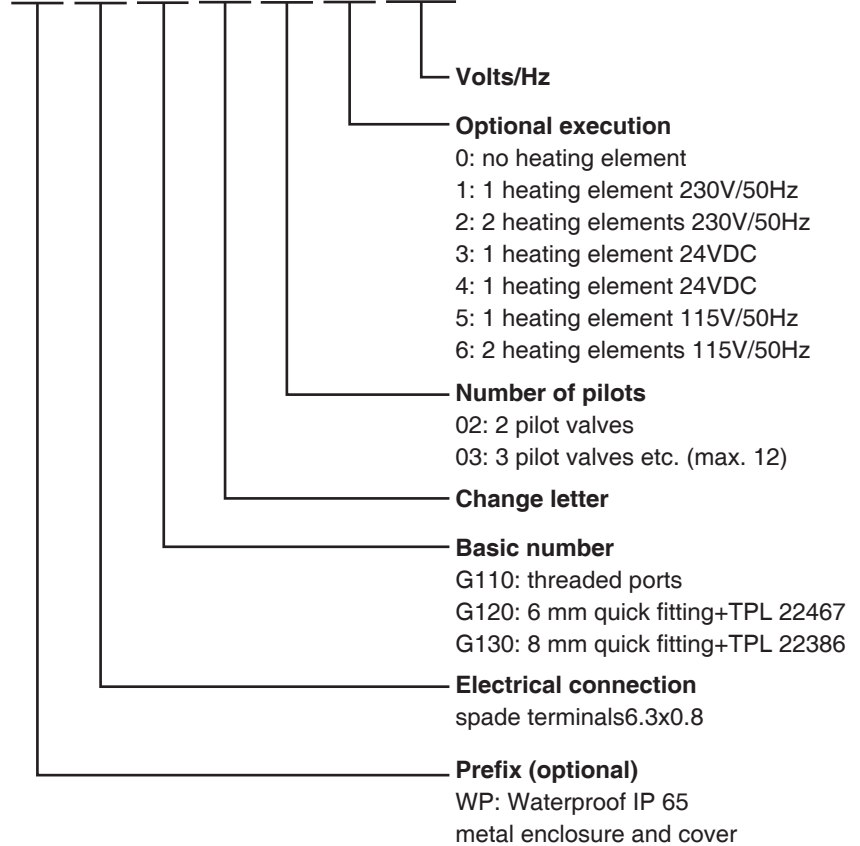
- The pilot boxes can be mounted in any position without affecting operation
- Pipe connections are: G 1/8 according to ISO 228 for pilot connection
G 3/8 according to ISO 228 for common exhaust
- Cable entries: control cable on box with 2 - 6 pilot valves : cable Ø 10 - 14 mm
control cable on box with 7 - 12 pilot valves : cable Ø 13 - 18 mm
connection cable heating element : cable Ø 5 - 10 mm
- Installation/maintenance instructions are included with each pilot box
- Spare parts kit and replacement coils are available

DIMENSIONS (mm), WEIGHT (kg)



ORDERING INFORMATION

(WP) S G110 A 12 0 230/50



Number of Pilot Valves	A	B	C	D	E	F	G	H	J	K	Weight ⁽¹⁾
2 ~ 6	187	G 1/8	22.5	156	98	26	103	12	27	83	1
7 ~ 12	322	G 1/8	22.5	266	98	26	103	12	27	83	2.2

⁽¹⁾ incl. coil and connector

⁽²⁾ mounting: 2 holes Ø10 with pitch D



SEQUENTIAL CONTROLLERS

for dust collector systems



Series
E909

FEATURES

- Sequential controllers especially developed for controlling dust collector pulse valves
- Accurate setting of pulse time and interval time

CONSTRUCTION

Housing Standard IP65 ABS or IP55/65 metallic
ATEX explosion proof protection

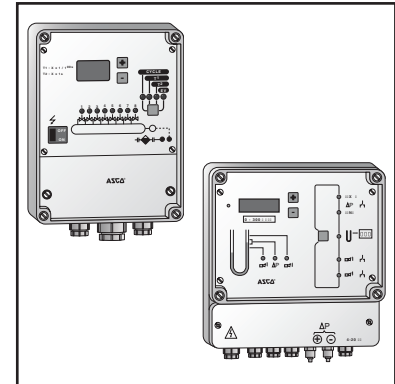
ELECTRICAL CHARACTERISTICS

Standard supply voltages AC (~): 115V - 230V (24V DC/AC on request)
Output voltages AC (~): 24V - 115V - 230V
DC (=): 24V
Operating temperature -10°C ~ +50°C



SEQUENTIAL CONTROLLERS (BASIC): E909SC / PC / PB / SB

- Different number of outputs upto 192
- Input activation from keyboard
- On/Off cycle by external pressure volt free switch
- Line switch with light
- Multi language display



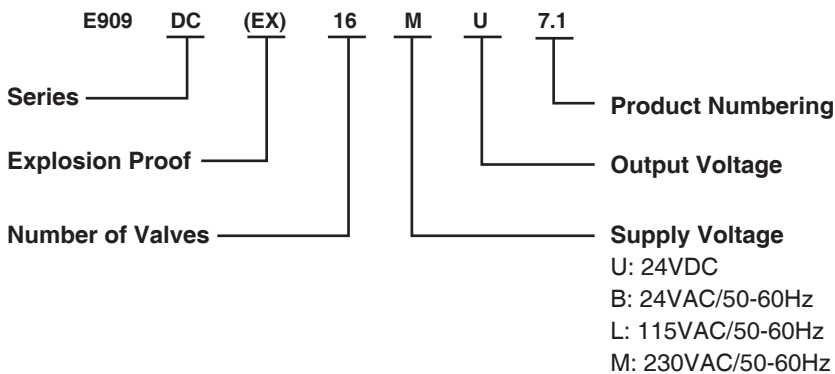
SEQUENTIAL CONTROLLERS WITH DIGITAL CONTROL OF DP: E909DC / BC / BB / DB

- Different number of outputs upto 192
- Standard digital control of DP
- Output signal DP 4-20 mA optional
- Minimum / Maximum DP alarm
- Differential pressure control
- DP reading full range 10 kPa
- Operation hour-counter
- Additional post-washing cycles after the fan stop by DP readout (stop)
- Cycle start consent by compressed air pressure switch with volt-free contact

SEQUENTIAL CONTROLLERS WITH E257 PILOT VALVES

- Different number of outputs upto 12

ORDERING INFORMATION





EMISSION CONTROL PROBE

for dust collector systems

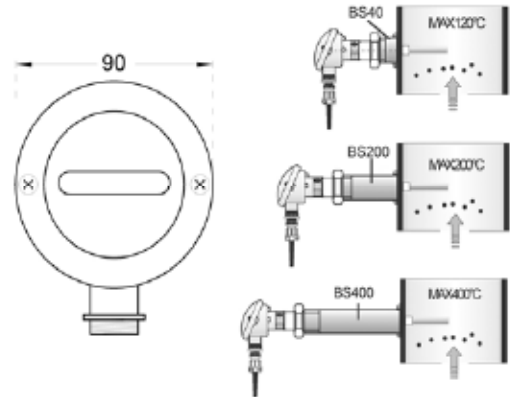
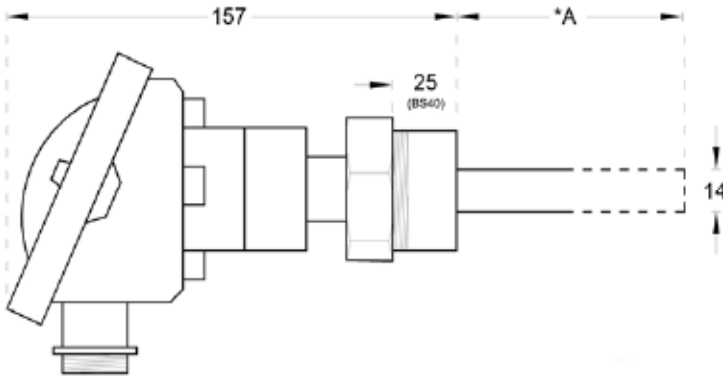
Series
E909TC30

FEATURES

- To detect possible leakages of the dedusting system.
- Signal 4-20 mA represents proportionally the dustiness degree.
- The output signal (4-20 mA) can be adjusted to program the activation of any alarms when the dust emissions overtake the values.

ELECTRICAL CHARACTERISTICS

Supply Voltage	16 - 24 VDC / 100 mA
Output signal	4 - 20 mA
GAS temperature	200 °C
Operating temperature	- 10 °C ~ + 50 °C
Relative humidity	80 %
Particle Size	≥ 0.3 µm
Rod lenght in mm. (*A)	400
Other lenght available (*A)	100, 150, 200, 250 mm 300, 350, 400, 450 mm 600, 800, 1000, 1500 mm



OPTION ON REQUEST

- High-sensitivity TC probe
- TC probe with reduced sensitivity
- TC probe connection cable
- Gas temperature 200°C with BS200
- Gas temperature 400°C with BS400

ORDERING INFORMATION

