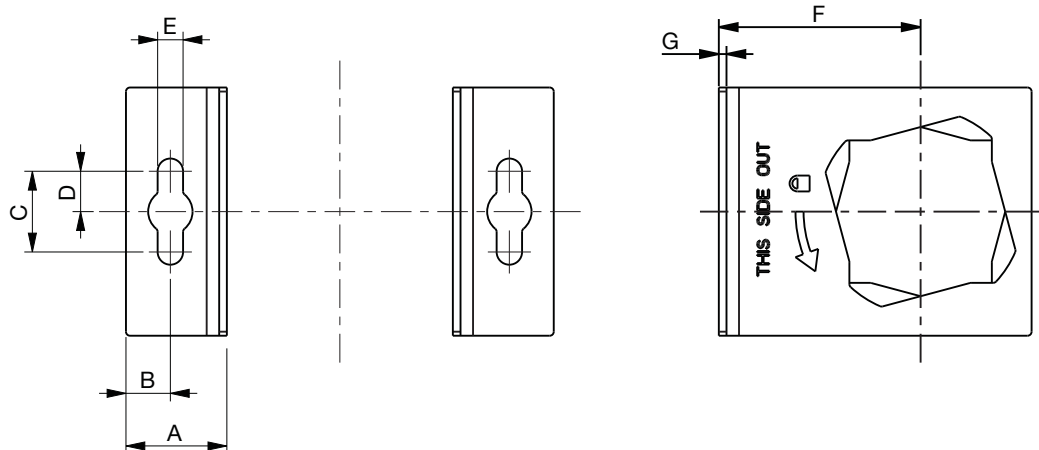


Dimensions: mm

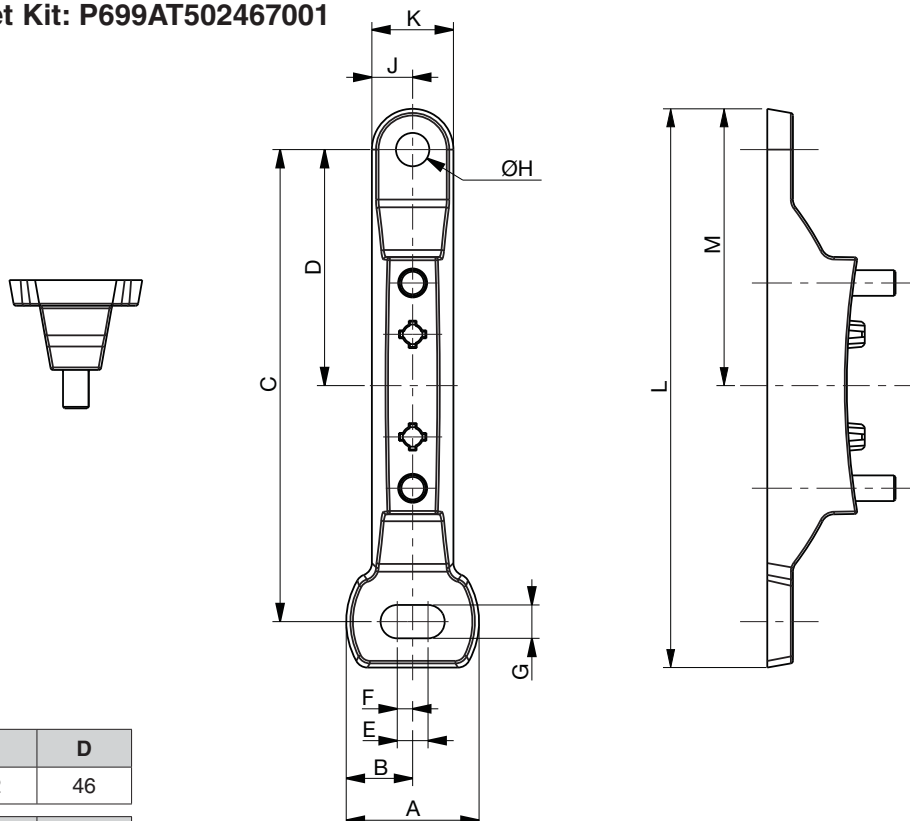
Dimensional Drawing - Mounting Options

Side Mounting Brackets Kit: P652AT50386002



A	B	C	D	E	F	G
25	11	20	10	6,3	50	1,9

Wall/Panel Bracket Kit: P699AT502467001

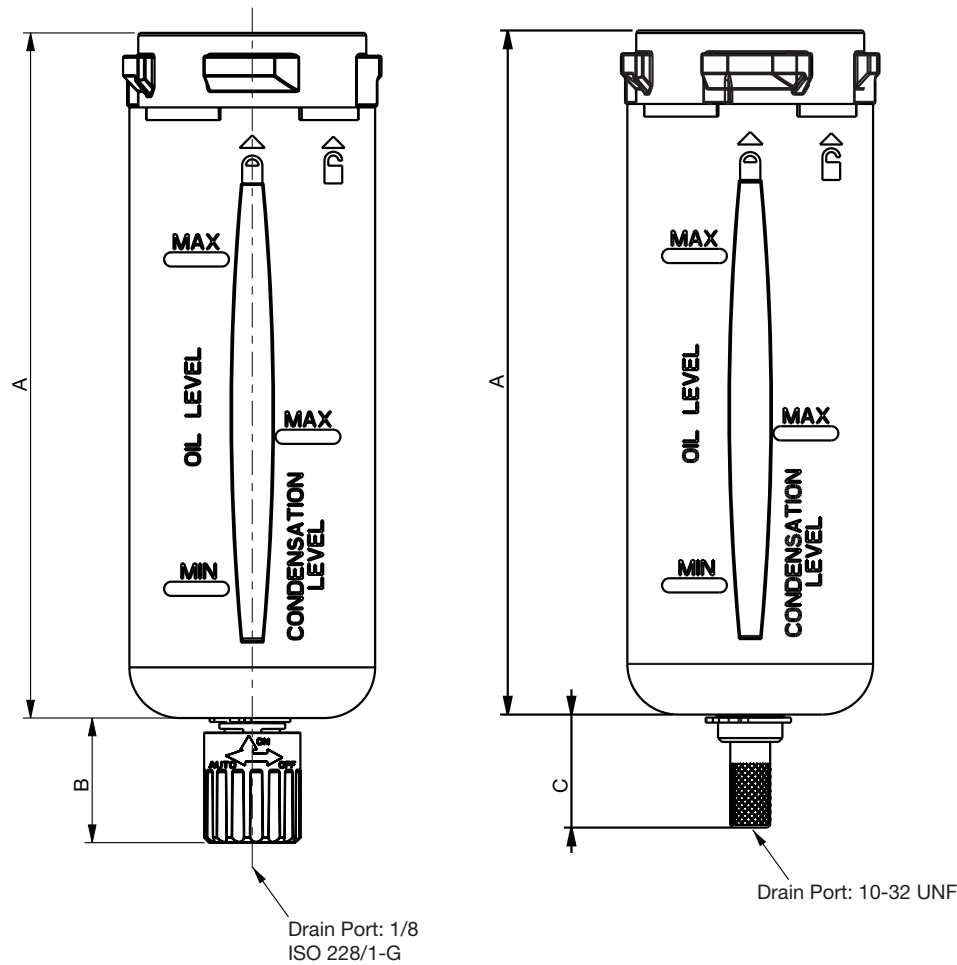


A	B	C	D
26	13	92	46
E	F	G	ØH
6	3	6,5	6,5
J	K	L	M
8	18	109	44,5

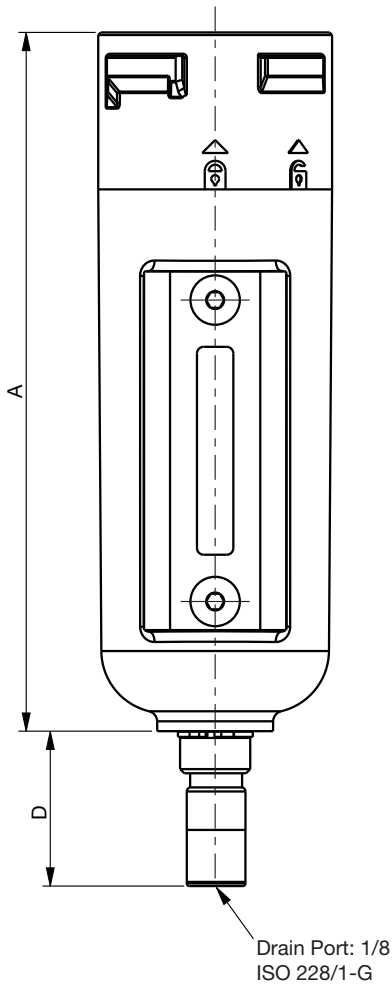
Dimensions: mm

Dimensional Drawings - Bowl Drain Options

Polycarbonate Bowl/Guard with Semi- Polycarbonate Bowl/Guard with
Automatic/Manual Drain Stainless Steel Manual Drain



Metal Bowl with
Automatic Drain



A	B	C	D
135	25	22,3	30

Note: For Filters and Filter-Regulators, allow for at least 85 mm clearance for removal of bowl (if using an automatic drain).
For Lubricators (without the Electronic Liquid Level Indicator), allow for 25 mm.

280 Series Digital Pressure Switch

Performance Data		
Port Size/Thread Type	1/8 ISO 7/1 Rc Male x M5-0,8 Female	
	1/8 NPTF Male x 10/32 UNF Female	
Ambient Temperature Range (°C)	0 to +50	
Rated Pressure Range (bar)	0 to 10	
Maximum Pressure (bar)	15	
Fluid	Air or Inert Gas	
Set Pressure Resolution	kPa	1
	kgf/cm²	0,01
	bar	0,01
	PSI	0,1
LCD Display	7 Segment; Red/Green Color	
Sampling Rate	5 times per second	
Repeatability	≤ +/- 0,2% F.S. +/- 1 Digit	
Hysteresis (window comparator mode)	Adjustable	
Electrical Ratings		
Power Supply Voltage	12 to 24 VDC +/- 10% Ripple (P-P) 10% or Less	
Current Consumption	≤ 45 mA (with no load)	
Switch Output	PNP Open Collector / NPN Open Collector	
Max. Load Current	125 mA	125 mA
Max Supply Voltage	24 VDC	30 VDC
Residual Voltage	≤ 1,5 V	≤ 1,5 V
Load Current	125 mA	125 mA
Enclosure Rating	IP40	
Materials in Contact with Fluid		
Enclosure Case	PBT + 30 GF	
Port	Nickel Plated Brass	
Seals	NBR	



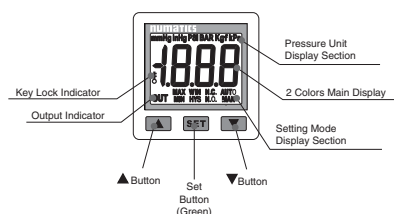
How to Order

Model Numbers

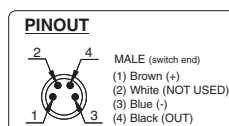
DPS280PRQ8 1/8 ISO 7/1 Rc (PNP) DPS280PNQ8 1/8 NPTF (PNP)
DPS280NRQ8 1/8 ISO 7/1 Rc (NPN) DPS280NNQ8 1/8 NPTF (NPN)

Note: All part numbers include an 8 mm Pico 4 Pin connector and 2 meter cable (4 mm O.D. x 26 AWG)

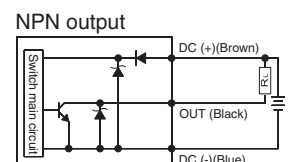
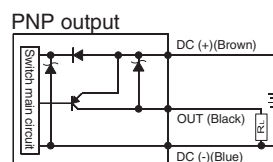
Display Panel Instructions



Switch Wiring



Output Circuit Wiring



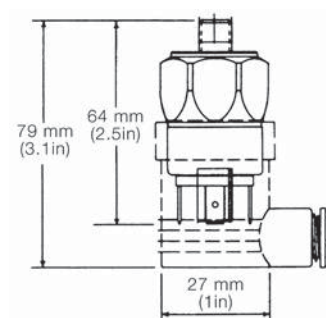
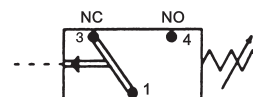
Accessory Numbers

Model	Accessory Description
DPS280-8-4-ST-2	Mating Cable 8 mm 4 Pin 2 Meter
DPS280-8-4-ST-5	Mating Cable 8 mm 4 Pin 5 Meter
PC0402MEETA03000	Patch Cable M8 4 Pin X M12 3 Pin 2 Meter

Model	Accessory Description
PMK280-C	Panel Mount Kit with Cover

PS180 Series Pressure Switch

Performance Data	
Port Size/Thread Type	ISO 228/1-G (BSPP) & 1/8 NPTF
Ambient Temperature Range (°C)	-15 to +85
Set Point Adjustment Ranges (bar)	0,28 to 1,38; 0,97 to 10,34
Maximum Pressure (bar)	20,7
Fluid	Air or Inert Gas
Maximum Cycle Rate per Minute	200
Hysteresis Adjustment	15%
Electrical Ratings	
Switch Contact Rating	4 A
Maximum Voltage	250 VAC (200 VDC)
Enclosure Rating	IP65
Materials in Contact with Fluid	
Connector Housing	Polyamide
Port	Zinc Plated Steel
Seals	NBR



How to Order

Model Numbers

PS180CAG01	1/8 ISO 228/1-G
PS180CAN01	1/8 NPTF

Digital Pressure Gauge

Performance Data	
Port Size/Thread Type	1/8 (ISO 7/1 Rc or NPTF)
Ambient Temperature Range (°C)	0 to +50
Rated Pressure Range (bar)	0 to 10
Maximum Pressure (bar)	15
Fluid	Air or Inert Gas
Display (Unit Measurement)	PSI, bar, Mpa, kgf/cm²
LCD Display	7 Segment 3-1/2 Digit
Sampling Rate	2 times per second
Repeatability	< + 0.2% + 1 Digit
Electrical Ratings	
Battery	CR 2032 Lithium (Replaceable)
Battery Life	3 Year (display turned on 5 times per day)
Battery Power Saving Mode	Display turns off after 30 seconds
Enclosure Rating	IP65
Materials in Contact with Fluid	
Enclosure - Front Case	ABS
Enclosure - Back Case	Zinc
Seals	NBR



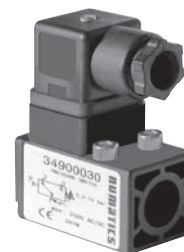
How to Order

Model Numbers

M699AG50465002	1/8 ISO 7/1
M699AG50465001	1/8 NPTF

349 Series Pressure Switch

Performance Data		
	Without Protection	With Protection
Port Size/Thread Type	Pad Mounted	
Fluid	Air or Inert Gas	
Pressure Setting	0,2 to 6; 0,5 to 10; 0,5 to 16 bar	
Hysteresis	0,4 bar at the beginning of adjustment range 1 bar at the end of adjustment range	
Operating Temperature (°C)	-10 to +60	0 to +60
Max Voltage	250V - AC/DC	24 VDC
Current Breacking Capacity	5A - 250V Resistive	2A - 24VDC Resistive
Protection Degree	IP65	
Max Speed	60 cycles per minute	
Material in contact with fluid		
Body	High Performance Polymer(PA61/XT) / Aluminium for 16 bar version	
Seals	NBR	

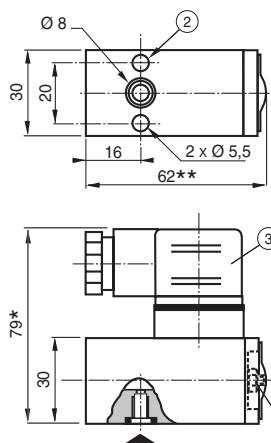


How to Order

	0,2 - 6 bar	0,5 - 10 bar	0,5 - 16 bar
With Protection	34900028	34900031	34900034
Without Protection	34900027	34900030	34900033

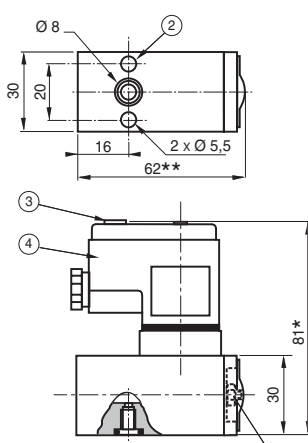
Dimensional Drawings

Without Protection



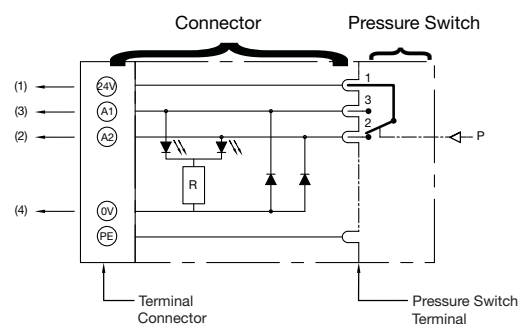
- ① Pressure set screw (spanner for hexagon nuts: 3 mm)
- ② 2 holes Ø 5,5 for mounting
- ③ ISO4400 size 30 connector, 4 terminals, rotatable by 90°

With Protection



- ① Pressure set screw (spanner for hexagon nuts: 3 mm)
- ② 2 holes Ø 5,5 for mounting
- ③ Identification label holder
- ④ Pg9P connector, non rotatable*

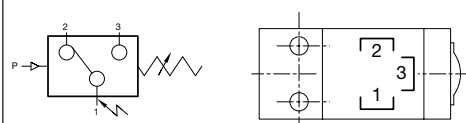
With Protection Electrical Diagram



Status indicated by two diodes:

- at rest: contact 1-2 made: orange diode lights
 - at work: contact 1-3 made: red diode lights
- Terminal connection for 1,5 mm² wire integrated interference blinking

Electrical Connection With and Without Protection



SERIES
652

ELECTRIC DIFFERENTIAL PRESSURE INDICATOR/ ELECTRONIC LIQUID LEVEL INDICATOR



Electric Differential Pressure Indicator

Performance Data	
Ambient Temperature Range (°C)	-25 to +100
Maximum Pressure (bar)	20
Delta P Setting (bar)	0,7
Electrical Ratings	
Switching Contact	SPDT
14 VDC/5 A; 30 VDC/4 A; 125 VAC/5 A; 250 VAC/5 A	
Minimum Load	5 VDC / 160 mA
Enclosure Rating	IP65 (DIN Connector 43650)
Materials in Contact with Fluid	
Body	Brass
Seals	NBR



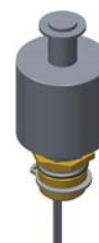
How to Order

Model Numbers

M699AG439851003

Electronic Liquid Level Indicator (for Lubricator)

Performance Data	
Actuation Point	25 ml (Nominal)
Switch Contact is open when fluid drops below 25 mL	
Connection	1/8-27 NPT External Thread
Electrical Ratings	
Switching Contact	SPST
Switch Type	50 Watt Reed Switch
Wire Size / Length	22 AWG / 610 mm
Materials in Contact with Fluid	
Body	Brass
Float	Nylon













How to Order

Model Numbers









M699AG506837001

Repair Kits and Service Parts







652 Series - Spare Parts Kits			
		Description	Kit Number
Bowls*		Polycarbonate Bowl & Bowl Guard - Includes NBR Bowl Seal for Filters, Filter-Regulators and Lubricators (Electronic Liquid Level Indicator only)	M652AU440511001
		Polycarbonate Bowl & Bowl Guard - Includes NBR Bowl Seal for Lubricators.	M652AU440511008
		Metal bowl without sight gauge. Includes NBR Bowl Seal.	M652AU440511002
		Metal bowl without sight gauge. Includes FKM Bowl Seal.	M652AU440511011
		Metal bowl with polyamide sight gauge. Includes NBR Bowl Seal.	M652AU440511003
		Metal bowl with polyamide sight gauge. Includes FKM Bowl Seal.	M652AU440511013
		Metal bowl with borosilicate (glass) sight gauge. Includes NBR Bowl Seal.	M652AU440511004
		Metal bowl with borosilicate (glass) sight gauge. Includes FKM Bowl Seal	M652AU440511015
Drains		Drain Plug Assembly. Provides an option to customers that do not want to use a bowl drain. Includes NBR seal.	M699AQ440512001
		Semi-Automatic/Manual Drain Assembly - with NBR seals. This normally open drain can be used as a manual drain or set to semi-automatic, which will drain the bowl upon a loss of system pressure. Drain material is plastic.	M699AQ440512002
		Semi-Automatic/Manual Drain Assembly - with FKM seals. This normally open drain can be used as a manual drain or set to semi-automatic, which will drain the bowl upon a loss of system pressure. Drain material is plastic.	M699AQ440512007
		Manual Stainless Steel Drain Assembly - with NBR seals. Provides the user with an alternative to the plastic semi-automatic drain.	M699AQ440512003
		Manual Stainless Steel Drain Assembly - with FKM seals. Provides the user with an alternative to the plastic semi-automatic drain.	M699AQ440512008
		Automatic Drain Assembly - with NBR seals. This drain uses a float that initiates the bowl to drain when the liquid rises. In addition, all fluid will drain when the pressure drops below 22 PSI. Drain material is brass. This drain can also be operated manually.	M699AQ501862001
Bowl & Drain Assembly		Bowl and Drain Assembly - Includes Polycarbonate Bowl/Guard and Semi-Automatic Drain Assembly (NBR Seals).	M652AU513311001

* For lubricator replacement metal bowls, please also order bowl plug p/n M699AQ440512001. This is not required if the Electronic Liquid Level Indicator is used.




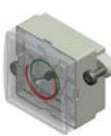

Repair Kits and Service Parts

652 Series - Spare Parts Kits				
		Description	Kit Number	Color
Filter Elements		5 Micron Particulate Filter Element	M652AE433582001	White
		25 Micron Particulate Filter Element	M652AE433582002	Yellow
		40 Micron Particulate Filter Element	M652AE433582003	Green
		0,3 Micron Coalescing Filter Element	EKF22D	Green
		0,01 Micron Coalescing Filter Element	EKF22E	Red
		0,3 Micron Coalescing Filter Element - with 3 Micron pre-filter	EKF22DD	Green
		0,01 Micron Coalescing Filter Element - with 3 Micron pre-filter	EKF22ED	Red
		Adsorber (Activated Carbon) Filter	EKF22F	White/Clear

Assembly and Mounting Kits

652 Series - Air Prep Assembly and Mounting Kits		
	Description	Kit Number
	Body-to-Body Assembly Clamps (Includes NBR O-Ring). Clamp material is aluminum.	P652AT502466001
	Body-to-Body Assembly Clamps (Include FKM O-Ring). Clamp material is aluminum.	P652AT502466003
	End Plate Kit (1/2 ISO228/1-G): Includes two end plates and body-to-body assembly clamps & NBR O-Ring. End plate material is aluminum.	T652AT502468002
	End Plate Kit (1/2 ISO228/1-G): Includes two end plates and body-to-body assembly clamps & FKM O-Ring. End plate material is aluminum.	T652AT502468008
	End Plate Kit (1/2 NPTF): Includes two end plates and body-to-body assembly clamps & NBR O-Ring. End plate material is aluminum.	T652AT502468001
	End Plate Kit (1/2 NPTF): Includes two end plates and body-to-body assembly clamps & FKM O-Ring. End plate material is aluminum.	T652AT502468007
	Wall/Panel Bracket Kit includes one bracket and two screws for attaching bracket to body clamp. Two brackets are required for mounting three or more products. One bracket is suitable for mounting two products. Material is aluminum.	P699AT502467001
	Side Mounting Brackets (Includes two brackets): Designed for mounting single products to wall or panel, but is capable of handling up to 3 stations. Material is stainless steel.	P652AT503860002
	Panel Nut: Used for Regulators and Filter-Regulators where adjustment knob is fed through a panel and the panel nut is then used to secure the product to the panel. Material is polyamide.	P652AT513177001
	Panel Nut & Bracket: The panel nut and bracket are used to mount a Regulator or Filter-Regulator to a wall or panel. Materials are stainless steel and polyamide.	P652AT503861002

Repair Kits and Service Parts

652 Series - Spare parts kits			
		Description	Kit Number
No Gauge		No Gauge Cover Kit - NBR Seal. Includes gauge cover, screw and o-ring	M699AG503396001
		No Gauge Cover Kit - FPM Seal. Includes gauge cover, screw and o-ring	M699AG503396002
Integrated gauges*		Integrated Gauge - 651/652/653 Series: 0-6 bar Scale with NBR seals	M699AG438047002
		Integrated Gauge - 651/652/653 Series: 0-6 bar Scale with FPM seals	M699AG438047014
		Integrated Gauge - 651/652/653 Series: 0-12 bar Scale with NBR seals	M699AG438047001
		Integrated Gauge - 651/652/653 Series: 0-12 bar Scale with FPM seals	M699AG438047013
		Integrated Gauge - 653 Series and SOV: 0-25 bar Scale with NBR seals	M699AG438047003
		Low Profile Gauge - 653 Series and SOV: 0-25 bar Scale with FPM seals	M699AG438047015
		Pressure Range Indicators (Red/Green) for low profile integrated gauges. Desired range can be easily set in the field. This kit allows customers to add the pressure range indicator to existing low profile integrated gauges in the field.	M699AG500179001
		Integrated Gauge with Pressure Range Indicators - 651/652/653 Series: 0-6 bar Scale with NBR seals	M699AG438047008
		Integrated Gauge with Pressure Range Indicators - 651/652/653 Series: 0-12 bar Scale with NBR seals	M699AG438047007
		Low Profile Gauge with Pressure Range Indicators - 653 Series and Shut-off Isolation Valves: 0-25 bar Scale with NBR seals	M699AG438047009
Digital Gauge		Digital Pressure Gauge - 651/652/653 Series: 0-145 PSI Scale (User can change units; bar,MPa, Kg/cm ²) 1/8" NPT	M699AG504650001
		Digital Pressure Gauge - 651/652/653 Series: 0-145 PSI Scale (User can change units; bar,MPa, Kg/cm ²) 1/8" ISO 7/1 Rc	M699AG504650002





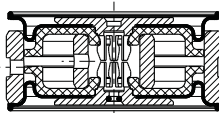


Repair Kits and Service Parts

652 Series - Spare Parts Kits			
		Description	Kit Number
Round Gauges*		Round Gauge - 0-4 bar 1/8 ISO 7/1 Rc and 50 mm Face Diameter	34200061
		Round Gauge - 0-12 bar 1/8 ISO 7/1 Rc and 50 mm Face Diameter	34200062
		Round Gauge - 0-16 bar 1/8 ISO 7/1 Rc and 50 mm Face Diameter (Europe)	34200997
Port Plates		Gauge Port Plate Assembly - 1/8 NPTF	M699AG440510001
		Gauge Port Plate Assembly - 1/8 ISO 7/1 Rc	M699AG440510002
Pressure Switch/Sensor		DPS280 Pressure Switch/Sensor - NPN M8 with Cable 1/8 ISO 7/1 Rc	DPS280NRQ8
		DPS280 Pressure Switch/Sensor - PNP M8 with Cable 1/8 ISO 7/1 Rc	DPS280PRQ8
		DPS280 Pressure Switch/Sensor - NPN M8 with Cable 1/8 NPTF	DPS280NNQ8
		DPS280 Pressure Switch/Sensor - PNP M8 with Cable 1/8 NPTF	DPS280PNQ8
Lubricator Repair Kits		Lubricator dome repair kit - NBR seals. Includes dome cover, screw and o-rings.	M699AY506842001
		Lubricator dome repair kit - FKM seals. Includes dome cover, screw and o-rings.	M699AY506842002
		Lubricator Level Switch assembly kit. Includes level switch, stainless steel retainer ring, o-ring and bushing.	M699AG506837001
		Lubricator Bowl Plug assembly: Includes Lubricator bowl plug, stainless steel retainer ring and NBR o-ring.	M699AQ440512001



* Each of the Low Profile and Round Gauges are dual scale. The scale that is listed in the description has the units located near the outside of the scale. The other units would be on the inside.

Note: For all pressure switches & round gauges that are added to the 652 series products in the field, a port plate is required. The port plate can be added at the time of order entry or as a kit.



Repair Kits and Service Parts

652 Series - Spare parts kits			
		Description	Kit Number
Filter Kits		Particulate Filter Repair Kit - Includes the filter retainer, head baffle, lower end cap and bowl baffle.	M652AY506833001
		Differential Pressure Pop-Up Indicator (NBR Seals). This is used for the Coalescing Filters to provide visual indication when the filter element needs to be replaced.	M699AG439851001
		Differential Pressure Pop-Up Indicator (FKM Seals). This is used for the Coalescing Filters to provide visual indication when the filter element needs to be replaced.	M699AG439851004
		DPI Plug (NBR Seals) This is used to plug the top port on the filter when a Differential Pressure Indicator is not used.	M699AG439851002
		DPI Plug (FKM Seals) This is used to plug the top port on the filter when a Differential Pressure Indicator is not used.	M699AG439851005
		Electric Differential Pressure Indicator (NBR Seals). This is used for the Coalescing Filter only. It provides a contact that will actuate when the filter element needs to be replaced.	M699AG439851003
Regulator & Filter Regulator Kits		Adjusting Screw Repair Kit - Includes adjusting screw, nut, washer and screw.	M652AY506952001
		Key Lockable Adjusting Screw Repair Kit - Includes adjusting screw, adjusting nut, flat washer and screw.	M652AY506952002
		Tamperproof Repair Kit - Includes adjusting screw, adjusting nut, flat washers and screws.	M652AY506952003
		Diaphragm Assembly Repair Kit (Pilot Operated Regulator NBR Seals).	M652AH435268001
		Diaphragm Assembly Repair Kit (Pilot Operated Regulator FKM Seals).	M652AH435268002
		Poppet Repair Kit (NBR Seals): Includes poppet, stem & seals.	M652AY506863001
		Poppet Repair Kit (FKM Seals): Includes poppet, stem & seals.	M652AY506863002
		Diaphragm Assembly Repair Kit (Relieving Regulator NBR Seals)	M652AH434213001
		Diaphragm Assembly Repair Kit (Relieving Regulator FKM Seals)	M652AH434213002
		Diaphragm Assembly Repair Kit (Non-Relieving Regulator NBR Seals)	M652AH434213003
		Diaphragm Assembly Repair Kit (Non-Relieving Regulator - FKM Seals)	M652AH434213004
		Main Spring (3 bar)	M652AY513313001
		Main Spring (4 bar)	M652AY438708001
		Main Spring (8 bar)	M652AY438709001
		Main Spring (10 bar)	M652AY513314001
Bowl Seal Kits		U-Cup Seal Kit (NBR Seals). Kit contains 10 U-Cup seals. This seal is used for all 652 series bowls	M652AH507085001
		U-Cup Seal Kit (FKM Seals). Kit contains 10 U-Cup seals. This seal is used for all 652 series bowls	M652AH507085002

Repair Kits and Service Parts

652 Series - Spare Parts Kits		
	Description	Part/Kit Number
3/2 Slow Start - Quick Exhaust Valve Kits		Horizontal Solenoid Operator (190) - With Manual Override
		19090017
		Horizontal Solenoid Operator (190) - Without Manual Override
		19090005
		24 VDC coil with 4 Pin M12 Connection, for Horizontal Solenoid Operator
		43005525
		24 VDC coil with DIN Spade connection for Horizontal Solenoid Operator
		43004473
		120 VAC coil with DIN Spade connection for Horizontal Solenoid Operator
		43004471
		24 VAC coil with DIN Spade connection for Horizontal Solenoid Operator
		43004469
		240 VAC coil with DIN Spade connection for Horizontal Solenoid Operator
		43004472
		DIN Connector, without LED - Horizontal Solenoid Operator
		88122602
		DIN Connector, with LED, for 24 VAC/DC coil - Horizontal Solenoid Operator
		88122603
		DIN Connector, with LED, for 120 VAC coil - Horizontal Solenoid Operator
		88122605
		DIN Connector, with LED, for 240 VAC coil - Horizontal Solenoid Operator
		88122608
		Vertical Solenoid Operator (189) - Without Manual Override
		18990007
		24 VDC coil with 4 Pin M12 Connection, for Vertical Solenoid Operator
		43005523
		24 VDC coil with DIN Spade connection for Vertical Solenoid Operator
		43004166
		120 VAC coil with DIN Spade connection for Vertical Solenoid Operator
		43004419
		24 VAC coil with DIN Spade connection for Vertical Solenoid Operator
		43004416
		240 VAC coil with DIN Spade connection for Vertical Solenoid Operator
		43004422
		DIN Connector, without LED - Vertical Solenoid Operator
		88122404
		DIN Connector, with LED, for 24 VAC/DC coil - Vertical Solenoid Operator
		88122405
		DIN Connector, with LED, for 120 VAC coil - Vertical Solenoid Operator
		88122407
		DIN Connector, with LED, for 240 VAC coil - Vertical Solenoid Operator
		88122410
		Jumper Plate Kit: For Air Operated Internally Piloted 3/2 Slow Start-QE Valve
		M699AY513316001
		Pilot Port Plate: For Air Operated Externally Piloted 3/2 Slow Start-QE Valve, 1/8 ISO 7/1 Rc
		M699AY513318001
		Pilot Port Plate: For Air Operated Externally Piloted 3/2 Slow Start-QE Valve, 1/8 NPTF
		M699AY513318002

Accessories

652 Series - Accessories			
		Description	Part Number
Scissor Lock		Scissor Lock for Shut-Off Isolation Valve & Lockout Valve	VB-1
Mufflers/Silencers		Metal Muffler – G 1/4 (Shut-Off Isolation Valves)	M2MB
		Polyethylene Muffler – G 1/4 (Shut-Off Isolation Valves)	34600407
		Metal Muffler – G 1/2 (Slow-Start/Quick Exhaust & Lockouts)	M4MB
		Polyethylene Muffler – G 1/2 (Slow-Start/Quick Exhaust & Lockouts)	34600409