

# Compact power modules

RE 18306-04/11.13

1/32

## MT series



### Summary

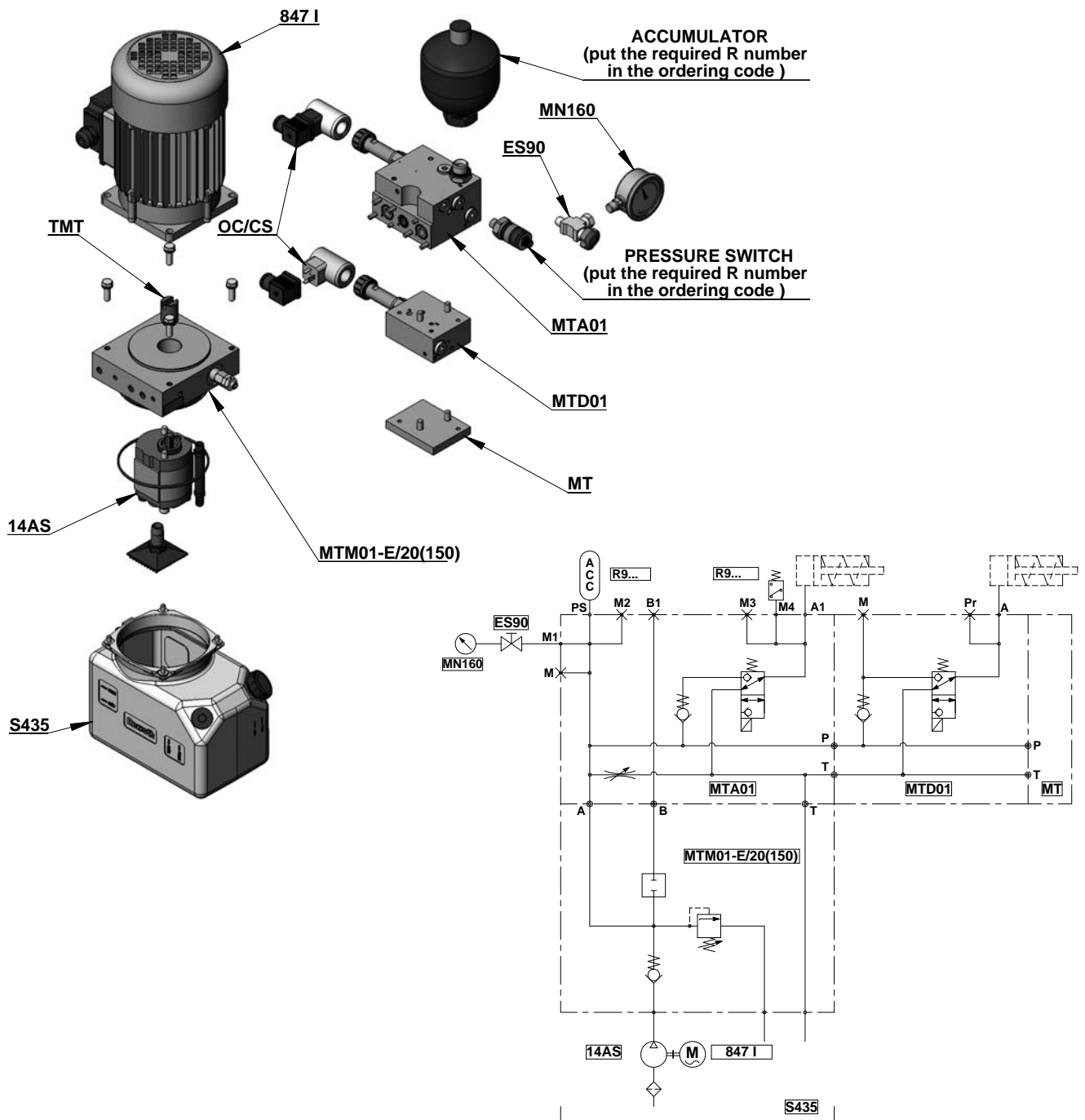
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## Ordering Details for Compact Power Modules MT

<p><b>Power Module Type</b> MT</p>	<p><b>Power Module Type of Motor</b> Without motor = 0 With 3ph motor = 2</p>	<p><b>A.C. Electric Motor</b> In the Power Module MT type is possible to assemble every code of AC Compact Mounting Style motor shown in the catalogue. (See pag.7)</p>	<p><b>Junction Elements</b> TMT (See pag.7)</p>	<p><b>Central Manifold with Pressure range Relief Valve + Request Setting of the Relief Valve in Bar:</b> Select the required pressure range of the Relief valve and put the required setting in bar beetwen bracket. (See pag.8)</p>	<p><b>Accessories:</b> If needed select the additional Accessories. (See pag.30-31)</p>	<p><b>Coil Voltage and Connector:</b> In case of selection of modular stackable elements with Solenoid Valve choice the required coil Voltage and the required Connector. (See pag.28-29)</p>	<p><b>Modular Stackable Elements:</b> If needed select the additional Modular Stackable Elements. (See pag.16-27)</p>	<p><b>Mounting Position and Mounting Brackets:</b> Select the required working position of the Power Module and Oil Filler cap in case of mounting position V1. If needed select the Mounting Bracket (See pag.14-15)</p>	<p><b>Oil Tank:</b> Select the required Oil Tank. (See pag.10-13)</p>	<p><b>Gears pump:</b> Select the required pump. (See page 9)</p>
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### Example of Ordering Details for Compact Power Modules MT



### Ordering Details for Compact Power Modules with AC Motor

MT	2	847 I	TMT	MTM01-E/20 (150)	14AS	S435	V1/M3	MTA01 / MTD01 / MT	OC / CS	ES90/ MN160/ R9.../ R9...
Power Module Type	Power Module Type of Motor	AC Electric motor	Junction Element	Central Manifold with Pressure range Relief Valve + Request Setting of the Relief Valve in Bar between brackets	Gears pump	Oil Tank	Mounting Position and Mounting Brackets	Modular Stackable Elements	Coil Voltage and Connector	Accessories

## General Technical Data for Compact Power Module MT series

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With this catalogue DCOC introduces the "compact power module" (CPM) MT type developed for clamping operation in Machine Tool. The CPM is an assembly of electric motor, central manifold with valves, pump, oil tank and a few modular elements able to cover the most parts of the schemes needed for this kind of application. The MT model is characterized by low noise level and a very space-saving design due to the direct assembly of the motor and modular elements to the central manifold.

### Hydraulic details

- Max Flow rate Q .....up to 20 L/min
- Max Intermittent pressure P2.....up to 250 bar
- Max Peak pressure P3 .....up to 270 bar (with a reduced number of cycles depending of pump size)
- AC Motors power range.....0.55 - 2.2 kW
- AC Motors protection class .....IP54
- Gear pumps displacement .....1.25 - 7.4 cc
- Tank volume.....up to 20 L
- Average Duty cycle .....S3 (intermittent operation) 60% (except for the 2.2 kW)

### Power module selection

- Choose the circuit which meets your application requirements.
- Take note of all dimensions resulting from the basic components chosen for your application.  
NOTE: dimensions may vary slightly and should be confirmed by DCOC if the assembly is to be installed in a space with narrow clearance.
- The tank capacity and the tank dimensions need to be large enough to assure proper pump suction: there must always be a reserve of oil in the tank when all cylinders are fully extended and avoid overflow when cylinders are fully retracted.
- The tank must be evaluated also for best separation of air from oil, and for settling down oil contamination. It should be placed in a space with, at least, natural ventilation and it should permit enough heat dissipation to prevent high fluid temperature.
- Select the electric motor by evaluating the power needed and the motor compliance with the heat developed during the expected run time (or "duty cycle").

### Hydraulic fluid for compact power module

Mineral oil based hydraulic fluids suitable for hydraulic systems can be used; they should have physical lubricating and chemical properties as specified by:

- MINERAL OIL BASED HYDRAULIC FLUIDS HL (DIN 51524 part 1)
- MINERAL OIL BASED HYDRAULIC FLUIDS HL P(DIN 51524 part 2)

For use of environmentally friendly fluids please consult DCOC.

### Fluid viscosity, Temperature range of the operating fluid, Ambient temperature

The fluid viscosity should remain within the range 10 to 300 cSt (centistokes); recommended 15 to 120 cSt .

Permissive cold start viscosity is maximum 2000 cSt .

The fluid temperature should remain within the range -15°C and 70°C [*5°F and 158°F*].

Ambient temperature -15°C +40°C [*5°F and 104°F*].

### Fluid cleanliness requirements and maintenance

We recommend a cleanliness of the operating fluid according to ISO 4406 Class 19/17/14 or cleaner.

All components of the hydraulic circuit , including hoses and actuators, must be flushed and cleaned before assembling, because the compact power module has a suction filter only.

The hydraulic fluid should be replaced after the first 50 hours, and then every 1000 hours, or, at least, once a year.

## General Technical Data for Compact Power Module MT series

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### Power module installation

The mounting position is basically un-restricted; just avoid installations that could compromise the pump suction. It is recommended to support the power module on vibration dampening blocks when the mounting structure is expected to vibrate.

Do not assembly the CPM to moving part. Finish required on mounting surface 0.3 mm over 140 mm lenght.

### Wiring and starting-up

The wiring between power source and electric motor should be selected in order to avoid excessive voltage drop.

**It is strictly forbidden** to allow the backwards rotation of the pump even at the first starting; to prevent reverse rotation, the wiring polarities must be correctly connected.

**Caution:** when energized, the surface temperature of the electric motor could reach temperature levels of 60-80°C [140-176°F]; care should be taken to avoid any accidental contact of people with the motor surface.

### A.C. Motors

The tolerances on the nominal voltage are:

Three phase motor: 230-400V +/-10%.

Protection degree : IP54 (protection against dust and water splash).

Insulation class: F (155°C) [311°F].

All motors are aluminum alloy die cast without painting.

### Central Manifolds

The Central Manifold is made of extruded aluminum alloy AL 7020 (AlZn4.5Mg UNI9007/1). The validation of the Central Manifold follows a life-test with 250 bar [625 psi] pulsed pressure repeated for 500.000 cycles.

### External Gear Pumps

All the pumps are pressure compensated with cast iron covers to guarantee the best efficiency and durability. The splined shaft guarantees a big number of start and stop cycles without failure or wearing. The validation of the pumps follows a life-test at P2 (intermittent max pressure) pulsed pressure repeated for 500.000 cycles.

### Oil Tanks

In this catalogue you will find a wide selection of plastic tanks available as a standard product. Plastic tanks are obtained in one piece in order to avoid welded parts that are weak points at extreme temperature and vibrations. Plastic tanks are suitable for operating temperature range -15°C / +70°C [5°F / 158°F].

Note: even if the plastic tank mounting system is designed to avoid oil leakage the tank must be securely anchored when subject to shocks and heavy vibrations. Please check that the anchorages do not stress or deform the tank.

Steel tanks are available on request and with a minimum of quantity. Please contact our Sales Department.

### Modular Stackable Elements

Our modular system offers a wide range of standardised elements.

All the Modular Elements are made of extruded aluminum alloy AL 7020 (AlZn4.5Mg UNI9007/1). In the catalogue you will find a selection of the main used models.

The validation of the Modular Elements follows a life-test with 250 bar [625 psi] pulsed pressure repeated for 500.000 cycles.

Note: To reduce the complexity of the system and optimize the available space, special Modular Elements can be designed and manufactured following the customers needs. In this case please contact our Sales Department.

### European machine directive 2006/42/CE

According to the Machine Directive 2006/42/CE, a complete power module, as described in paragraph 15 and made available to the European market, enters into the definition of "partly completed machinery".

Instead, the power module sub-assemblies (motor, pump, reservoir, central manifold,...), when not assembled into a complete power pack, are considered "components" which can be employed in a "machinery" or a "partly completed machinery". In this case, the DCOC components and sub-assemblies must be fitted in compliance

## General Technical Data for Compact Power Module MT series

with all the relevant technical data sheet applicable to the product, and shall not be operated, adjusted or disassembled before the complete machinery where they are incorporated has been declared to be in compliance with the Machine Directive 2006/42/CE.

**Note: All the components shown in the catalogue ARE NOT suitable for use in potentially explosive atmosphere.**

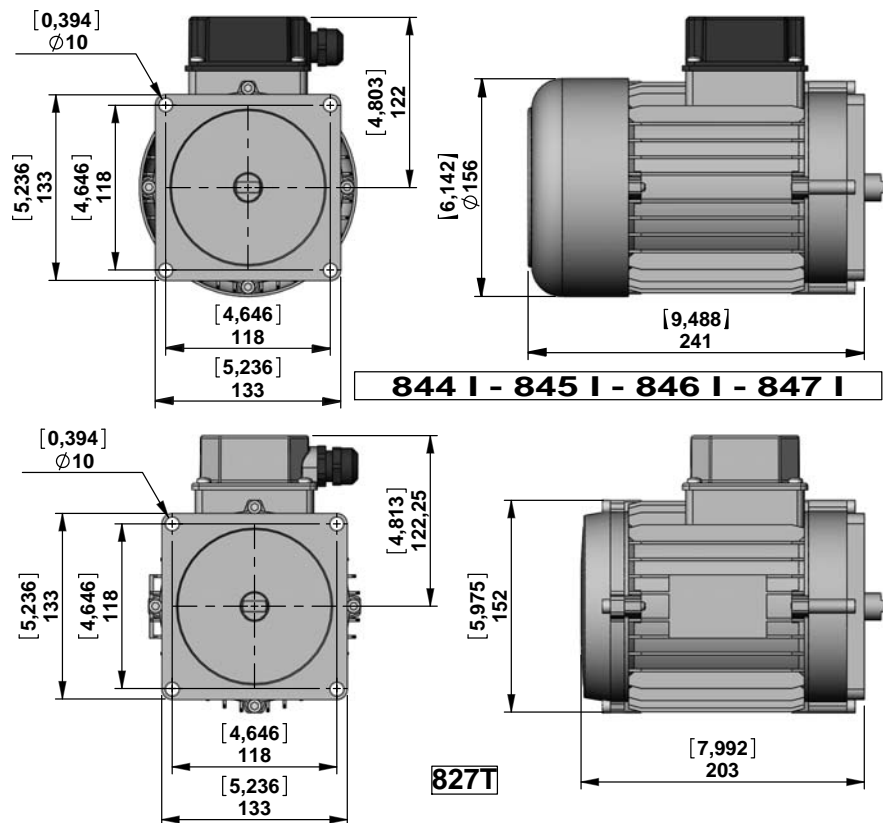
### Technical information

Below you will find the most common equations used in hydraulics:

	Flow	Operating pressure	Internal diameter hydraulic cylinder	Area of hydraulic cylinder	Piston force	Drive shaft	Power requirement for motor	Pump displacement	Torque requirement
<b>Common Units</b>	l/min	bar	mm	mm <sup>2</sup>	N	rev/min	kW	cm <sup>3</sup> /rev	Nm
<b>Symbols</b>	<b>Q</b>	<b>P</b>	<b>d</b>	<b>A</b>	<b>F</b>	<b>n</b>	<b>N</b>	<b>D</b>	<b>M</b>
<b>Equations</b>	$Q = \frac{D \times n}{1000} \times 0,95$	$P = \frac{F}{0,1 \times A}$	-	$A = \frac{\pi \times d^2}{4}$	-	-	$N = \frac{P \times Q}{612}$	-	$M = \frac{D \times P}{62,8 \times 0,87}$

### A.C. Electric Motor Compact Mounting Style for Power Module Type MT

These motors are designed to reduce the overall dimensions and the cost of the junction elements.



### Three Phase Current Motors 230/400V 50Hz IP54 Size IEC 80

Code	Type	Material Number	Power (kW)	Power (hp)	Poles	Rpm at 50Hz	Duty Cycle	Thermal Switch
<b>844 I</b>	C1622S1457	R932010919	0,55	0,75	4	1450	S3 60%	no
<b>845 I</b>	C1622S1456	R932010924	0,75	1,00	4	1450	S3 60%	no
<b>846 I</b>	C1622S1453	R932010923	1,10	1,50	4	1450	S3 60%	no
<b>847 I</b>	C1622S1370	R932000419	1,50	2,00	4	1450	S3 60%	no
<b>827 T</b>	C1622S1409	R932007620	2,20	3,00	2	2900	S3 15%	yes

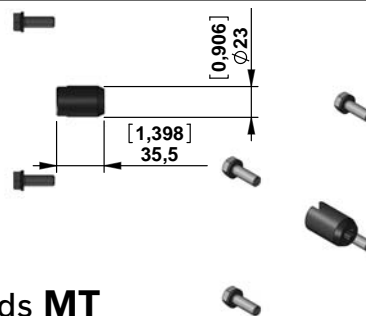
The motors shown in these tables are a selection of our range.

In case of needs of different technical characteristics PLEASE CONTACT OUR SALES DEPARTEMENT.

NOTE: The electric motors shown in this pages are delivered by different certified suppliers.

This means the indicated dimensions could change a little, depending on which manufacturer will be assembled. On the CPM the choice of the manufacturer is based on our stock availability.

### Junction Elements for A.C. Electric Motor Compact Mounting Style for Power Module Type MT

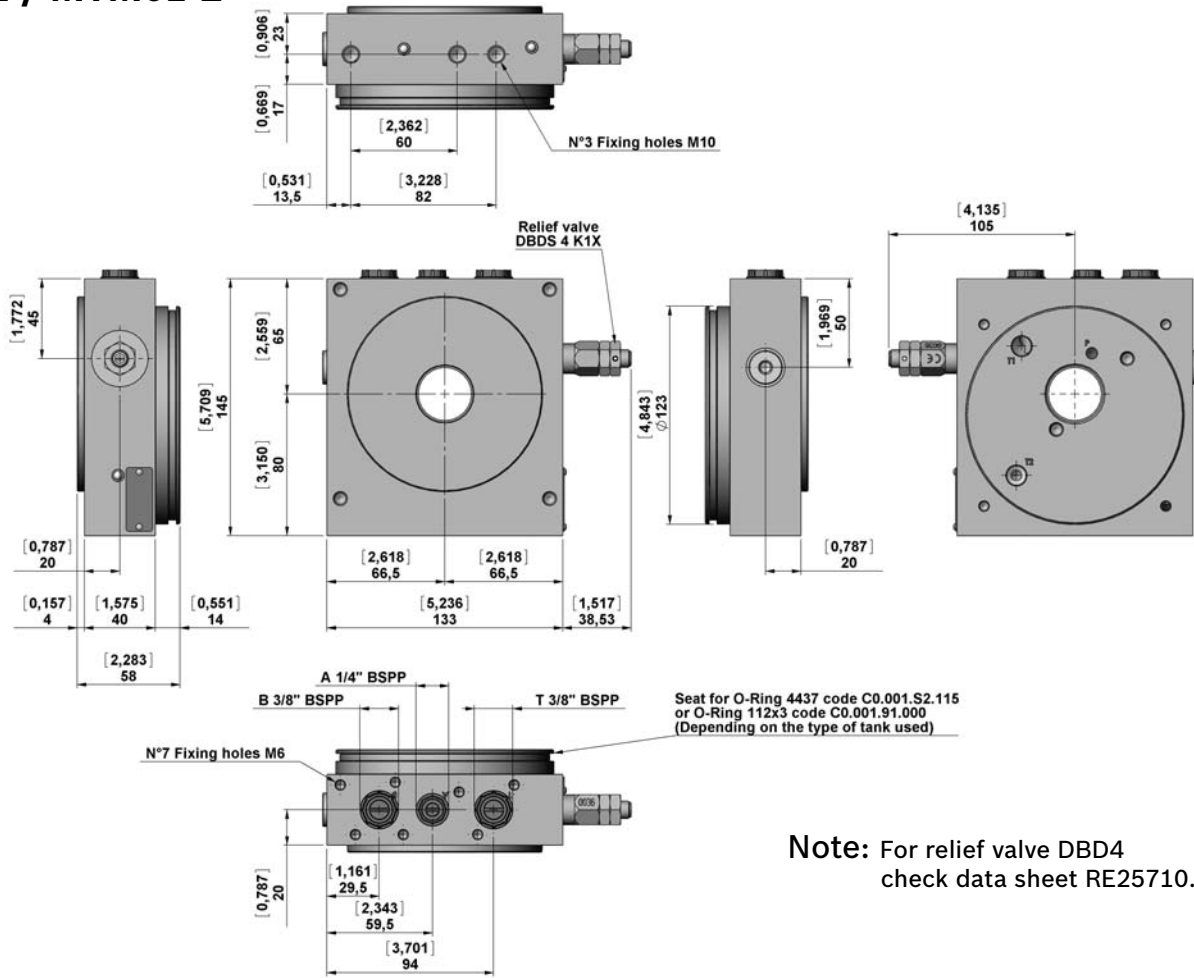


### Junction Elements for manifolds MT

Code	Motor Codes	Size IEC	Type	Material Number
<b>TMT</b>	844 I - 845 I - 846 I - 847 I - 827 T	80	K01K3970TR114	R932011170

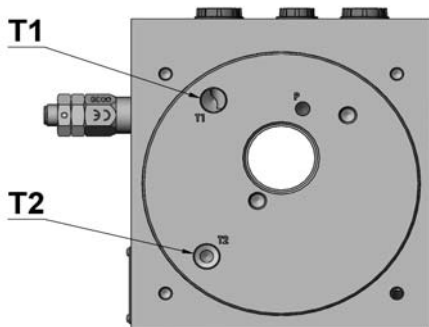
## Central Manifold MT

### MTM01 / MTM01-E

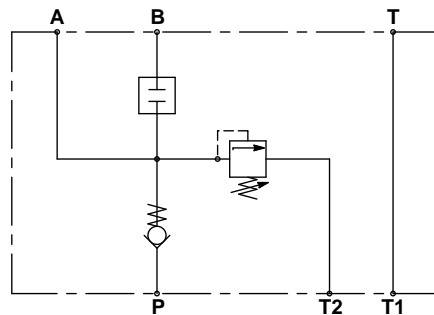


**Note:** For relief valve DBD4 check data sheet RE25710.

View Manifold Tank side



Manifold Hydraulic Diagram



### MTM01

Manifold Code with Relief Valve Pressure Range	Pressure Range bar [psi]	Type	Material Number
<b>MTM01/10</b>	5-100 [72,5-1450]	K397301001	R932007800
<b>MTM01/20</b>	40-200 [580-2901]	K397301002	R932007801
<b>MTM01/31</b>	100-315 [1450-4568]	K397301003	R932007802

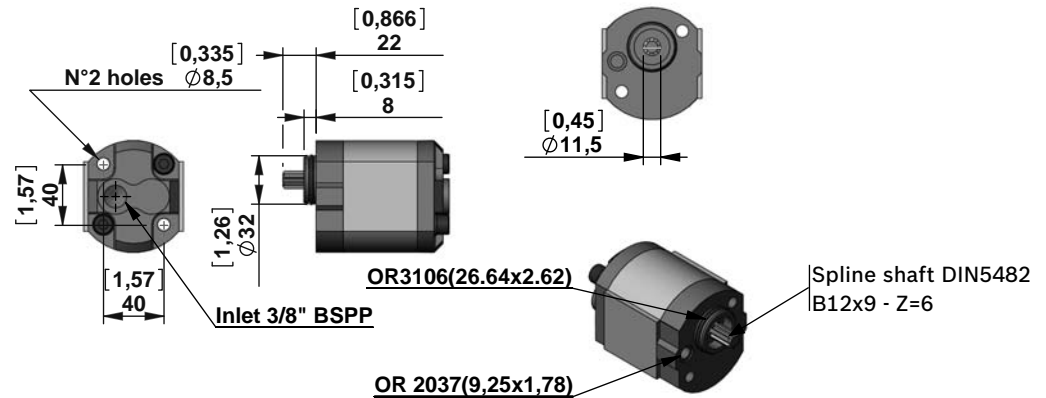
### MTM01-E with type tested safety relief valve according to PED 97/23/EC

Manifold Code with Relief Valve Pressure Range	Pressure Range bar [psi]	Type	Material Number
<b>MTM01-E/10</b>	5-100 [72,5-1450]	-	-
<b>MTM01-E/20</b>	40-200 [580-2901]	-	-
<b>MTM01-E/31</b>	100-315 [1450-4568]	-	-



## Gear Pumps

### Gear Pumps Group 1 with Splined Shaft



**Please Note:** All pumps have anti-clockwise rotation.

P2: intermittent max Pressure.

P3: peak Max Pressure (max 2 seconds).

Code	Displacement cc/rev	Flow at 1400 rpm l/min [gpm]	P2 bar [psi]	P3 bar [psi]	Type	Material Number
<b>11AS</b>	1,25	1,8 [0,48]	250 [3626]	270 [3916]	K01CV640S1260	R932011185
<b>12AS</b>	1,60	2,4 [0,63]	250 [3626]	270 [3916]	K01CV640S1261	R932011186
<b>13AS</b>	2,00	3,0 [0,79]	250 [3626]	270 [3916]	K01CV640S1262	R932011187
<b>14AS</b>	2,50	3,7 [0,98]	250 [3626]	270 [3916]	K01CV640S1263	R932011188
<b>15AS</b>	3,15	4,7 [1,24]	250 [3626]	270 [3916]	K01CV640S1264	R932011189
<b>16AS</b>	3,65	5,5 [1,45]	250 [3626]	270 [3916]	K01CV640S1265	R932011190
<b>17AS</b>	4,20	6,3 [1,66]	230 [3336]	250 [3626]	K01CV640S1266	R932011191
<b>18AS</b>	5,00	7,5 [1,98]	210 [3046]	230 [3336]	K01CV640S1252	R932011192
<b>19AS</b>	5,70	8,5 [2,24]	210 [3046]	230 [3336]	K01CV640S1247	R932011193
<b>20AS</b>	7,40	11,1 [2,93]	180 [2611]	200 [2901]	K01CV640S1249	R932011194

### Flow rate and Pressure

FLOW RATE 50 Hz l/min [gpm]	N° poles	RPM	Pump cc/rpm	MOTOR THREE PHASE 230/400V			
				0,55 kW bar [psi]	0,75 kW bar [psi]	1,1 kW bar [psi]	1,5 kW bar [psi]
1,7 [0,45]	4	1400	1,25	198 [2872]	250 [3626]	250 [3626]	250 [3626]
2,2 [0,58]	4	1400	1,60	153 [2219]	208 [3017]	250 [3626]	250 [3626]
2,8 [0,74]	4	1400	2,00	120 [1740]	163 [2364]	240 [3481]	250 [3626]
3,5 [0,92]	4	1400	2,50	96 [1392]	131 [1900]	192 [2785]	250 [3626]
4,4 [1,16]	4	1400	3,15	76 [1102]	104 [1508]	153 [2219]	208 [3017]
5,1 [1,35]	4	1400	3,65	66 [957]	90 [1305]	132 [1914]	180 [2611]
5,8 [1,53]	4	1400	4,20	58 [841]	79 [1146]	116 [1682]	158 [2291]
7,0 [1,85]	4	1400	5,00	48 [696]	65 [957]	96 [1392]	131 [1900]
7,9 [2,01]	4	1400	5,70	42 [609]	58 [841]	85 [1233]	116 [1682]
10,3 [2,72]	4	1400	7,40	-	44 [638]	65 [943]	89 [1291]

FLOW RATE 50 Hz l/min [gpm]	N° poles	RPM	Pump cc/rpm	MOTOR THREE PHASE 230/400V
				2 kW bar [psi]
3,5 [0,92]	2	2800	1,25	250 [3626]
4,4 [1,16]	2	2800	1,60	250 [3626]
5,6 [1,48]	2	2800	2,00	218 [3162]
7,0 [1,85]	2	2800	2,50	174 [2524]
8,8 [2,32]	2	2800	3,15	139 [2016]
10,2 [2,69]	2	2800	3,65	120 [1740]
11,7 [3,09]	2	2800	4,20	104 [1508]
14,0 [3,70]	2	2800	5,00	87 [1262]
15,9 [4,20]	2	2800	5,70	76 [1102]
20,7 [5,47]	2	2800	7,40	59 [856]

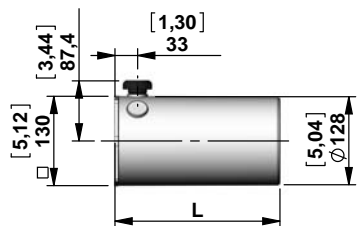
## Oil Tanks for MT

### Technical Data for Plastic Tanks

Temperature range	°C [°F]	-15....+70 [5....158]
Materials	PE=Polyethylene - PP=Polypropilene	
Seal	For tanks codes S335-S336-S337-S338-S339-S340-S341-S342 is necessary to use the O-RING Ø112x3 Code: C000191000 R-Number:R932000190. For all the other tanks except the codes above is necessary to use the O-RING 4437 (Ø110,7x3,53) Code:C0001S2115 R-Number:R932000188	

### Plastic Tanks

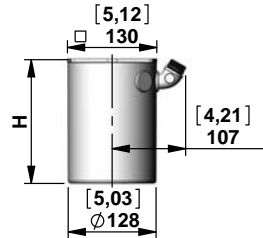
Code	Tank capacity l [USgal]	Useable capacity l [USgal]	L mm [inch]	Material	Type	Material Number
S335	1,0 [0,26]	0,7 [0,18]	140 [5,51]	PP	K01K3976SE372	R932002035
S336	1,8 [0,48]	1,2 [0,32]	180 [7,09]		K01K3976SE373	R932002036
S337	2,5 [0,66]	1,7 [0,45]	240 [9,45]		K01K3976SE374	R932002037
S338	3,0 [0,79]	2,3 [0,61]	285 [11,22]		K01K3976SE375	R932002038



For this tanks is necessary to use the O-RING Ø112x3 code: C000191000 R-Number: R932000190

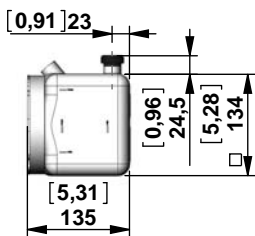
Code	Tank capacity l [USgal]	Useable capacity l [USgal]	H mm [inch]	Material	Type	Material Number
S339	1,0 [0,26]	0,6 [0,16]	140 [5,51]	PP	K01K3976SE376	R932007882
S340	1,8 [0,48]	1,1 [0,29]	180 [7,09]		K01K3976SE377	R932007883
S341	2,5 [0,66]	1,7 [0,45]	240 [9,45]		K01K3976SE378	R932007884
S342	3,0 [0,79]	2,3 [0,61]	285 [11,22]		K01K3976SE379	R932007885



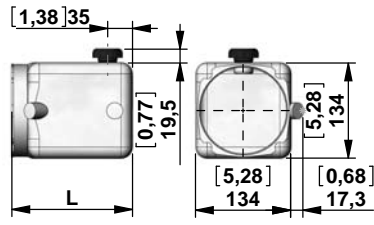
For this tanks is necessary to use the O-RING Ø112x3 code: C000191000 R-Number: R932000190

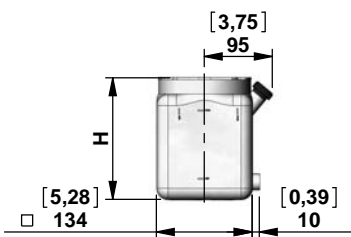
Code	Tank capacity l [USgal]	Useable capacity l [USgal]	Material	Type	Material Number
S246	1,0 [0,26]	0,9 [0,24]	PE	K01K3976SE270	R932002016

Code	Tank capacity l [USgal]	Useable capacity l [USgal]	L mm [inch]	Material	Type	Material Number
S247	1,8 [0,48]	1,6 [0,42]	170 [6,71]	PE	K01K3976SE271	R932002017
S248	2,5 [0,66]	2,2 [0,58]	240 [9,45]		K01K3976SE272	R932002018

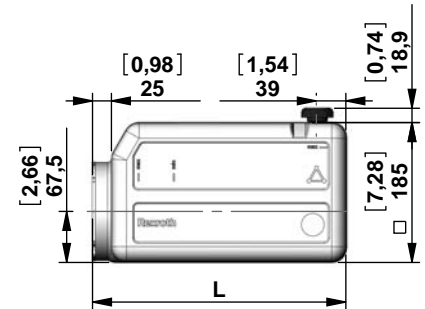
Code	Tank capacity l [USgal]	Useable capacity l [USgal]	H mm [inch]	Material	Type	Material Number
S249	1,0 [0,26]	0,9 [0,24]	135 [5,31]	PE	K01K3976SE273	R932002019
S250	1,8 [0,48]	1,6 [0,42]	170 [6,71]		K01K3976SE274	R932002020
S251	2,5 [0,66]	2,2 [0,58]	240 [9,45]		K01K3976SE275	R932002021



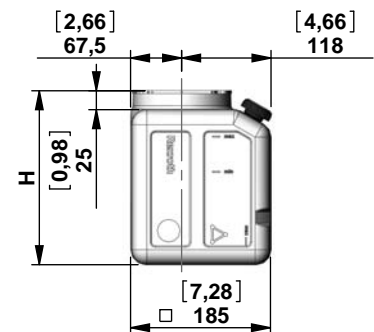
## Oil Tanks for MT

### Plastic Tanks

Code	Tank capacity l [USgal]	Useable capacity l [USgal]	L mm [inch]	Material	Type	Material Number
<b>S343</b>	5,0 [1,32]	3,8 [1,00]	230 [9,05]	PE	K01K3976SE380	R932002039
<b>S331</b>	5,0 [1,32]	3,8 [1,00]	230 [9,05]	PE Black	K01K3976SE368	R932007872
<b>S413</b>	7,0 [1,85]	5,5 [1,45]	310 [12,20]	PE	K01K3976SE439	R932007873
<b>S414</b>	7,0 [1,85]	5,5 [1,45]	310 [12,20]	PE Black	K01K3976SE440	R932007874
<b>S415</b>	8,0 [2,11]	6,5 [1,72]	335 [13,19]	PE	K01K3976SE441	R932006036
<b>S416</b>	8,0 [2,11]	6,5 [1,72]	335 [13,19]	PE Black	K01K3976SE442	R932007875
<b>S316</b>	9,0 [2,38]	7,3 [1,93]	365 [14,37]	PE	K01K3976SE351	R932002031
<b>S314</b>	9,0 [2,38]	7,3 [1,93]	365 [14,37]	PE Black	K01K3976SE451	R932007876
<b>S417</b>	12,0 [3,17]	10,0 [2,64]	495 [19,50]	PE	K01K3976SE443	R932006768
<b>S418</b>	12,0 [3,17]	10,0 [2,64]	495 [19,50]	PE Black	K01K3976SE444	R932007877



Code	Tank capacity l [USgal]	Useable capacity l [USgal]	H mm [inch]	Material	Type	Material Number
<b>S344</b>	5,0 [1,32]	3,5 [0,92]	230 [9,05]	PE	K01K3976SE381	R932002040
<b>S332</b>	5,0 [1,32]	3,5 [0,92]	230 [9,05]	PE Black	K01K3976SE369	R932008240
<b>S419</b>	7,0 [1,85]	5,5 [1,45]	310 [12,20]	PE	K01K3976SE445	R932007879
<b>S420</b>	7,0 [1,85]	5,5 [1,45]	310 [12,20]	PE Black	K01K3976SE446	R932007880
<b>S421</b>	8,0 [2,11]	6,5 [1,72]	335 [13,19]	PE	K01K3976SE447	R932006037
<b>S422</b>	8,0 [2,11]	6,5 [1,72]	335 [13,19]	PE Black	K01K3976SE448	R932007881
<b>S315</b>	9,0 [2,38]	7,3 [1,93]	365 [14,37]	PE	K01K3976SE350	R932002030
<b>S313</b>	9,0 [2,38]	7,3 [1,93]	365 [14,37]	PE Black	K01K3976SE348	R932002029
<b>S423</b>	12,0 [3,17]	10,0 [2,64]	495 [19,50]	PE	K01K3976SE449	R932006038
<b>S424</b>	12,0 [3,17]	10,0 [2,64]	495 [19,50]	PE Black	K01K3976SE450	R932006278



## Oil Tanks for MT

## Plastic Tanks

Code	Tank capacity l [USgal]	Useable capacity l [USgal]	L mm [inch]	Material	Type	Material Number	
<b>S395</b>	3,0 [0,79]	1,7 [0,45]	140 [5,51]	PE	K01K3976SE470	R932007903	
<b>S396</b>	3,7 [0,98]	2,2 [0,58]	165 [6,50]		K01K3976SE471	R932007904	
<b>S392</b>	5,0 [1,32]	3,1 [0,82]	215 [8,46]		K01K3976SE464	R932007365	
<b>S394</b>	8,4 [2,22]	5,5 [1,45]	340 [13,39]		K01K3976SE466	R932007435	
<b>S397</b>	12,7 [3,35]	8,4 [2,2]	500 [19,68]		K01K3976SE472	R932007905	

Code	Tank capacity l [USgal]	Useable capacity l [USgal]	H mm [inch]	Material	Type	Material Number	
<b>S434</b>	3,0 [0,79]	1,7 [0,45]	140 [5,51]	PE	K01K3976SE478	R932007910	
<b>S435</b>	3,7 [0,98]	2,2 [0,58]	165 [6,50]		K01K3976SE479	R932007911	
<b>S436</b>	5,0 [1,32]	3,1 [0,82]	215 [8,46]		K01K3976SE480	R932007912	
<b>S437</b>	8,4 [2,22]	5,5 [1,45]	340 [13,39]		K01K3976SE481	R932007913	
<b>S438</b>	12,7 [3,35]	8,4 [2,2]	500 [19,68]		K01K3976SE482	R932007914	

Code	Tank capacity l [USgal]	Useable capacity l [USgal]	H mm [inch]	Material	Type	Material Number	
<b>S442</b>	10,0 [2,64]	7,0 [1,85]	190 [7,18]	PE	K01K3976SE492	R932010792	
<b>S443</b>	12,0 [3,17]	9,0 [2,38]	215 [8,46]		K01K3976SE493	R932010793	
<b>S444</b>	15,0 [3,96]	12,5 [3,30]	265 [10,43]		K01K3976SE494	R932010794	
<b>S445</b>	20,0 [5,28]	17,5 [4,62]	330 [12,99]		K01K3976SE495	R932010795	

## Oil Tanks for MT

### Plastic Tanks

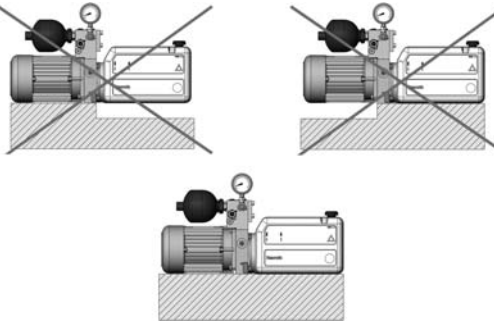
Code	Tank capacity l [USgal]	Useable capacity l [USgal]	L mm [inch]	Material	Type	Material Number
<b>S374</b>	5,0 [1,32]	4,0 [1,06]	219 [8,62]	PE	K01K3976SE415	R932002042
<b>S376</b>	7,0 [1,85]	5,4 [1,43]	271 [10,67]		K01K3976SE417	R932002044
<b>S378</b>	8,0 [2,11]	6,6 [1,74]	323 [12,72]		K01K3976SE419	R932002046
<b>S380</b>	11,0 [2,91]	9,6 [2,54]	453 [17,83]		K01K3976SE421	R932002048



Code	Tank capacity l [USgal]	Useable capacity l [USgal]	H mm [inch]	Material	Type	Material Number
<b>S375</b>	5,0 [1,32]	4,0 [1,06]	219 [8,62]	PE	K01K3976SE416	R932002043
<b>S377</b>	7,0 [1,85]	5,4 [1,43]	271 [10,67]		K01K3976SE418	R932002045
<b>S379</b>	8,0 [2,11]	6,6 [1,74]	323 [12,72]		K01K3976SE420	R932002047
<b>S381</b>	11,0 [2,91]	9,6 [2,54]	453 [17,83]		K01K3976SE422	R932002049



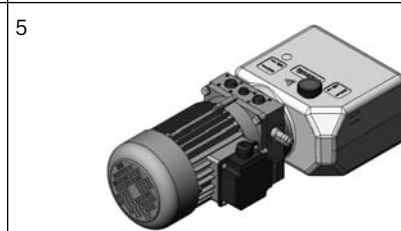
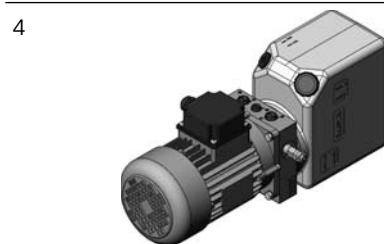
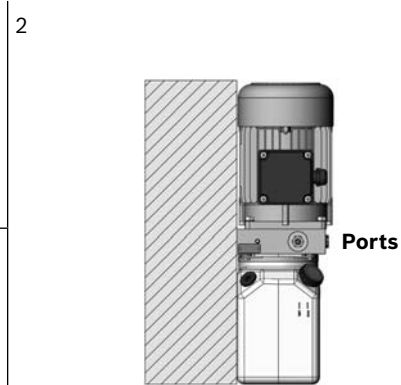
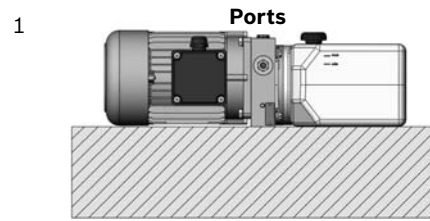
### Assembly Kit for Plastic Tank - MT

Oil Tank	Code for MT	Material Number	Please make sure that the tank and motor are mounted correctly
S335 - S336 - S337 - S338 - S339 - S340 - S341 - S342	K2501VT016	R932007391	
S246 - S247 - S248 - S249 - S250 - S251	K2501VT025	R932011181	
S413 - S414 - S419 - S420 - S415 - S416 - S421 - S422 - S332 - S344 - S313 - S315 - S343 - S331 - S316 - S314 - S374 - S375 - S376 - S377 - S378 - S379 - S380 - S381 - S417 - S418 - S423 - S424 - S395 - S396 - S392 - S394 - S397 - S434 - S435 - S436 - S437 - S438 - S442 - S443 - S444 - S445	K2501VT015	R932008244	

## Mounting Position

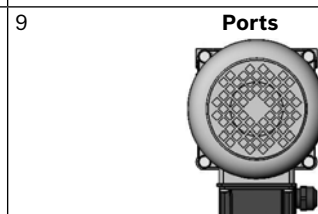
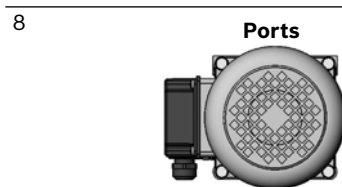
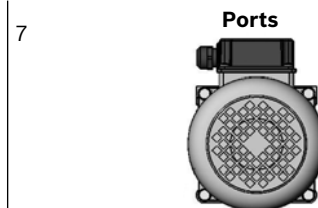
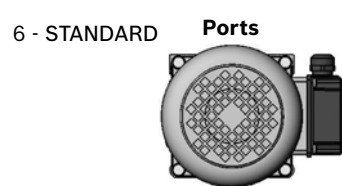
### Mounting Position

Code	Image
<b>O1</b>	1
<b>V1</b>	2
<b>L</b>	3
<b>T</b>	4
<b>R</b>	5



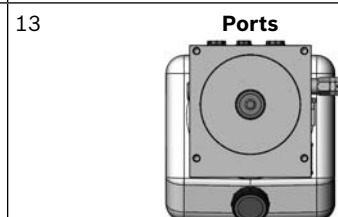
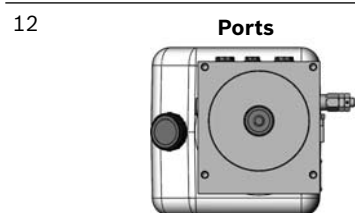
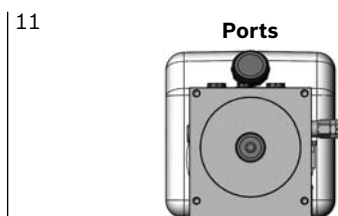
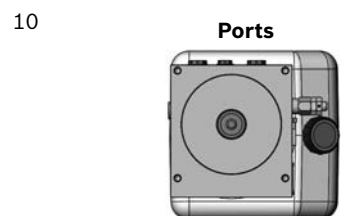
### Terminal Box Position for A.C. Motors

Code	Image
-	6
<b>M2</b>	7
<b>M3</b>	8
<b>M4</b>	9



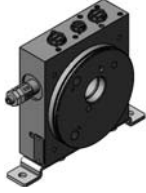
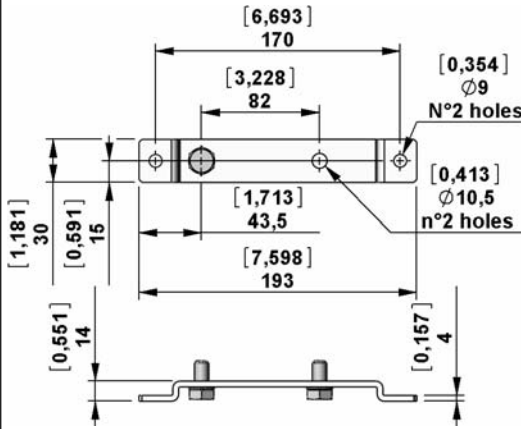
### Oil Cap Position for V1 only

Code	Image
-	10
<b>LU</b>	11
<b>LO</b>	12
<b>LP</b>	13



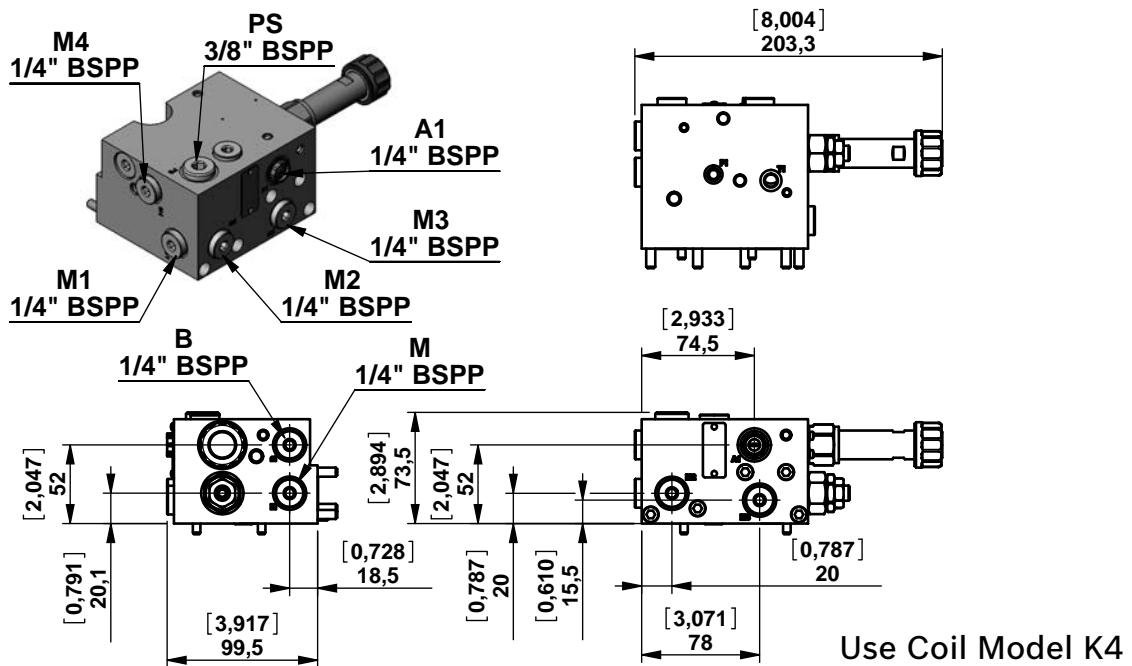
## Mounting Brackets

### Support for Manifold MT series

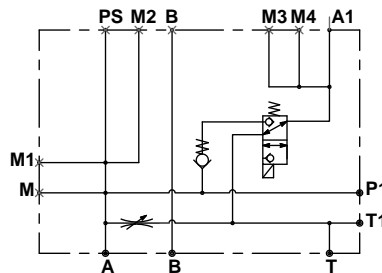
Code	Central manifold	Type	Material Number		
GMT	MT	K01F331528000	R932011175		 <p>Technical drawing showing dimensions and hole specifications for the mounting bracket:</p> <ul style="list-style-type: none"> <li>Overall length: [6,693] 170</li> <li>Distance between mounting holes: [3,228] 82</li> <li>Distance between manifold holes: [1,713] 43,5</li> <li>Overall width: [7,598] 193</li> <li>Mounting hole diameter: [0,354] <math>\phi 9</math> N°2 holes</li> <li>Manifold hole diameter: [0,413] <math>\phi 10,5</math> n°2 holes</li> <li>Bracket thickness: [0,157] 4</li> <li>Other dimensions: [1,181] 30, [0,591] 15, [0,551] 14</li> </ul>

## Modular Stackable Elements

### MTA01

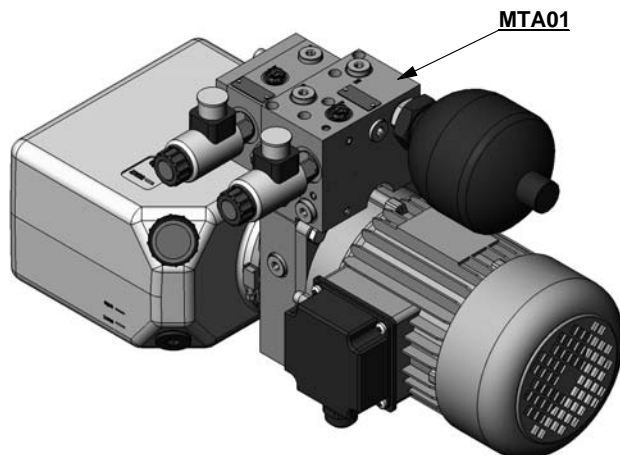


Note: For 3/2 KSDE solenoid valve check data sheet RE18136.



Code	Description	Max Working Pressure bar [psi]	Max Flow l/min [gpm]	Type	Material Number
MTA01	Kit MTA01 Modular block	250 [3626]	12,0 [3,17]	0985900017	R932008163

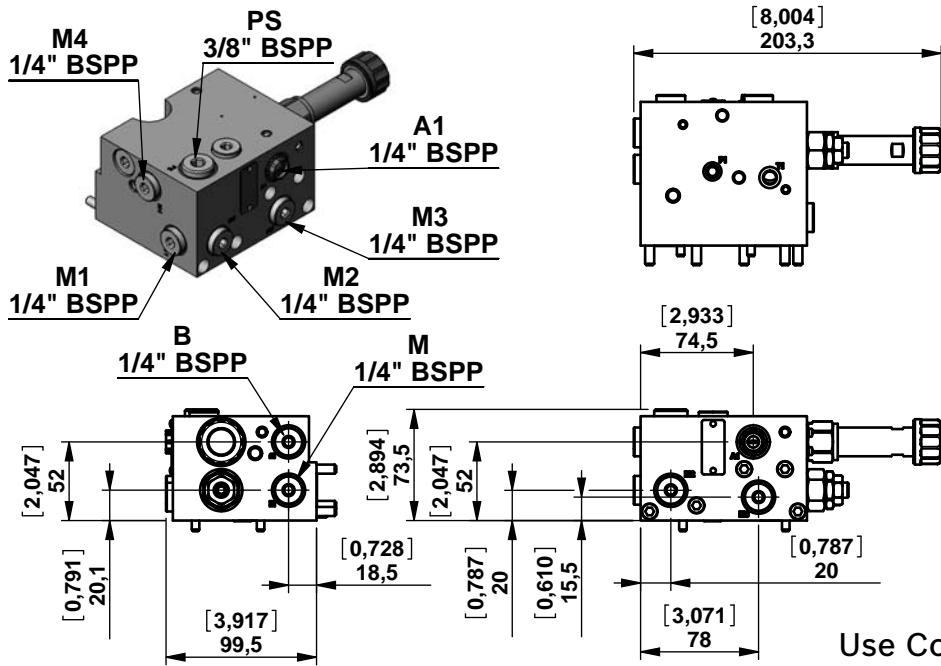
### Mounting Example





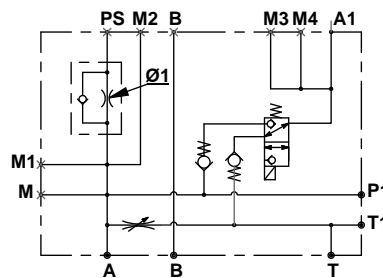
Modular Stackable Elements

MTA02



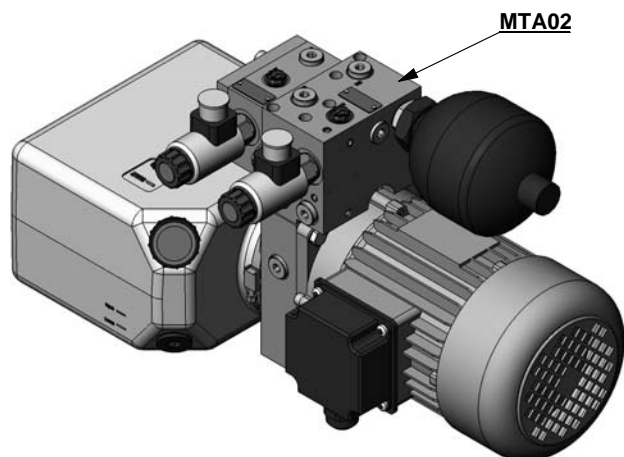
Use Coil Model K4

Note: For 3/2 KSDE solenoid valve check data sheet RE18136.



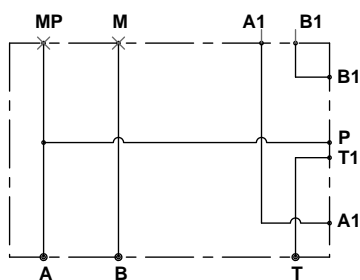
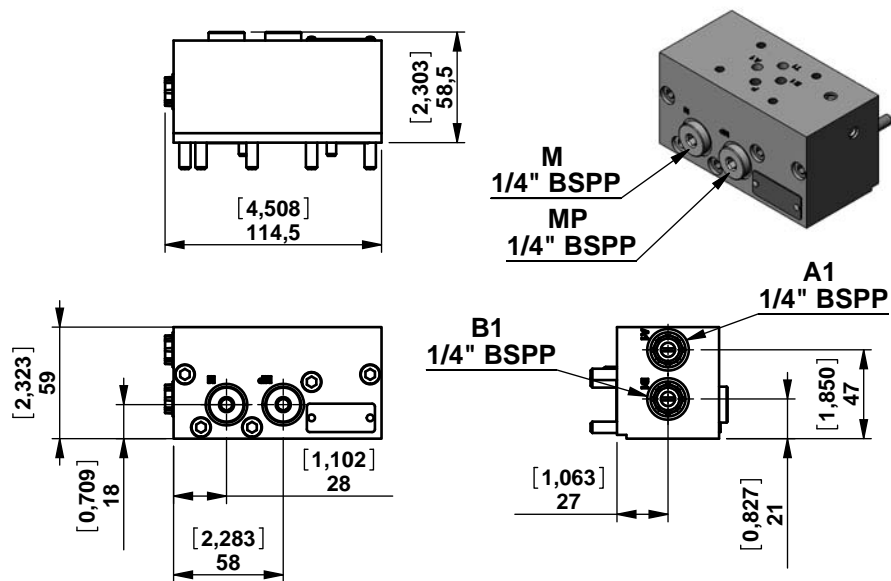
Code	Description	Max Working Pressure bar [psi]	Max Flow l/min [gpm]	Type	Material Number
MTA02	Kit MTA02 Modular block	250 [3626]	12,0 [3,17]	0985900021	R932010931

Mounting Example



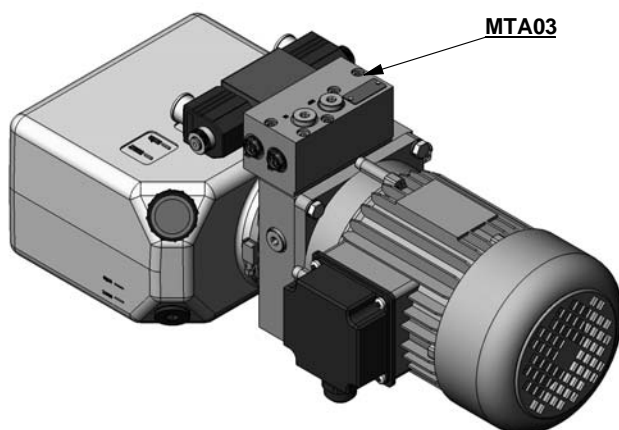
## Modular Stackable Elements

### MTA03



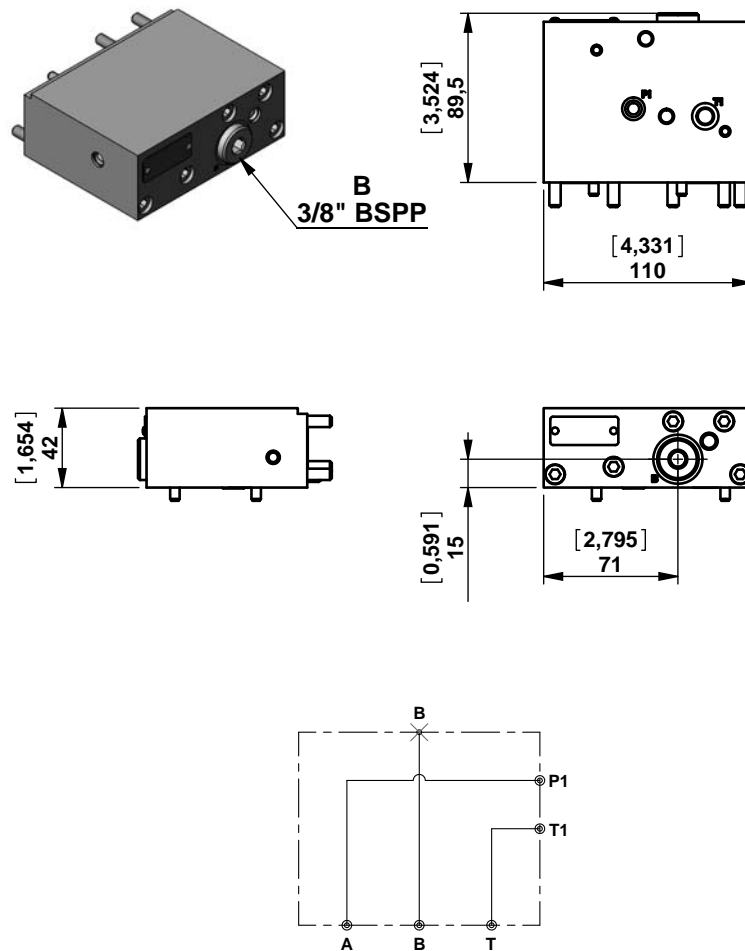
Code	Description	Max Working Pressure bar [psi]	Max Flow l/min [gpm]	Type	Material Number
<b>MTA03</b>	Kit MTA03 Modular block	250 [3626]	20,0 [5,28]	0985900011	R932007989

### Mounting Example



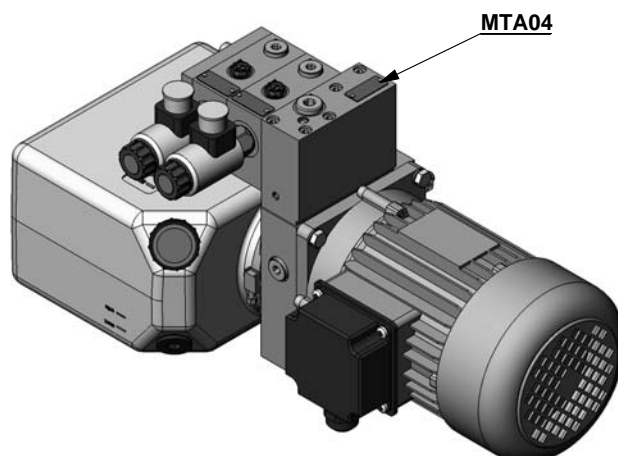
## Modular Stackable Elements

### MTA04



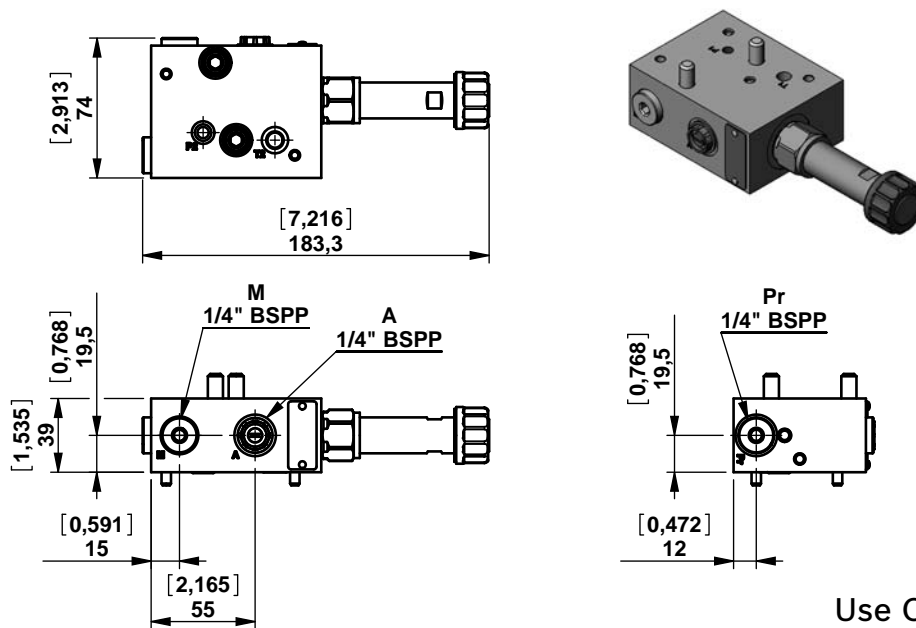
Code	Description	Max Working Pressure bar [psi]	Max Flow l/min [gpm]	Type	Material Number
<b>MTA04</b>	Kit MTA04 Modular block	250 [3626]	20,0 [5,28]	0985900018	R932008172

### Mounting Example

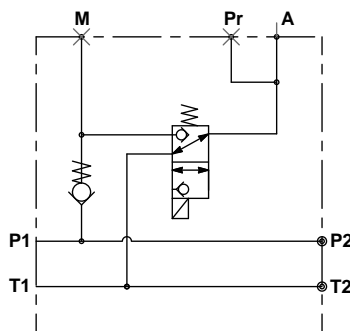


## Modular Stackable Elements

### MTD01



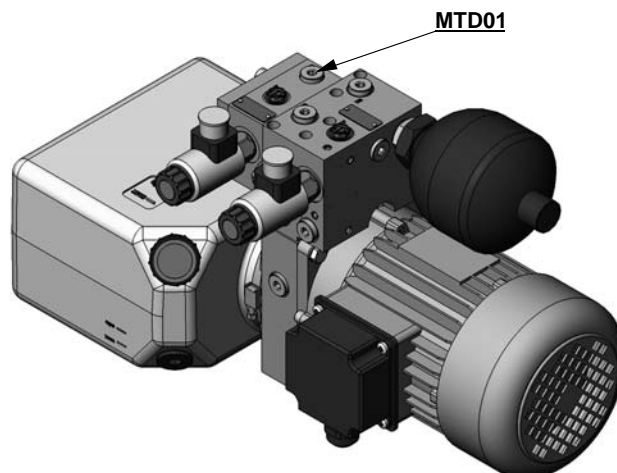
Use Coil Model K4



Note: For 3/2 KSDE solenoid valve check data sheet RE18136.

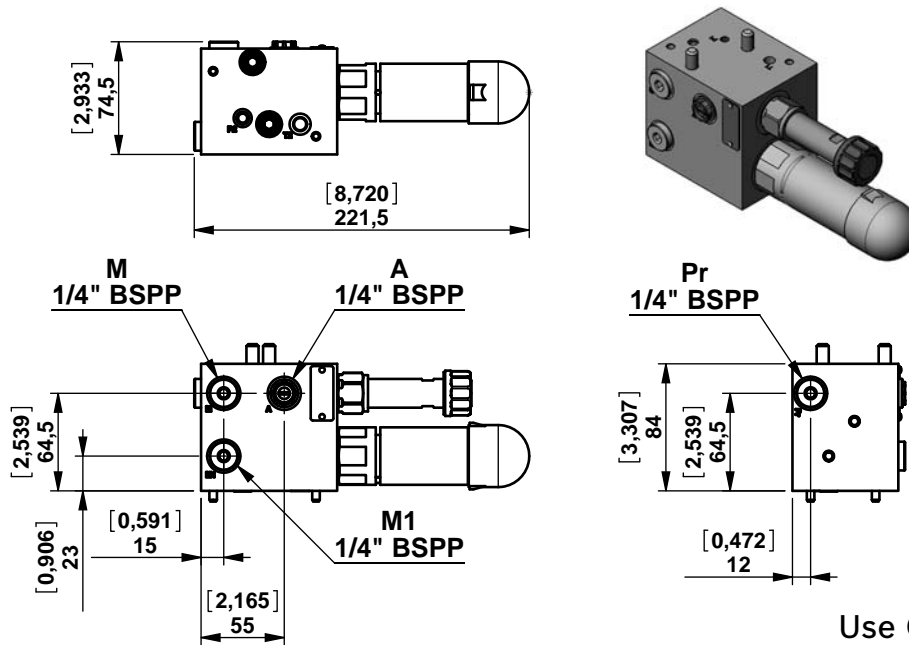
Code	Description	Max Working Pressure bar [psi]	Max Flow l/min [gpm]	Type	Material Number
MTD01	Kit MTD01 Modular block	250 [3626]	12,0 [3,17]	0985900001	R932007956

### Mounting Example



## Modular Stackable Elements

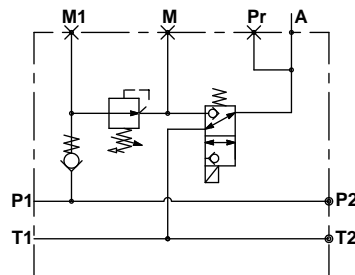
### MTD02



Use Coil Model K4

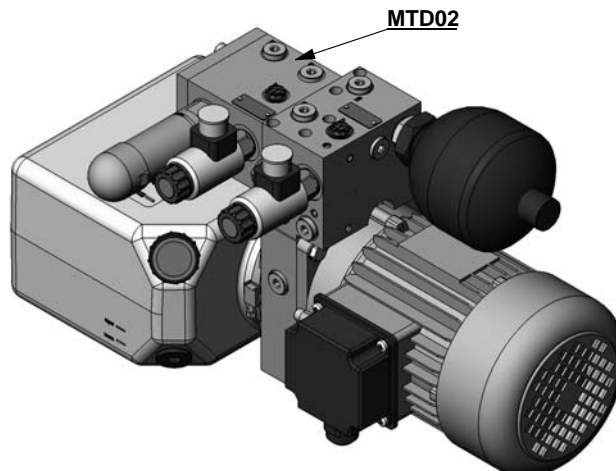
**Note:** For 3/2 KSDE solenoid valve check data sheet RE18136.

For KRD pressure reducing valve check data sheet RE18111.



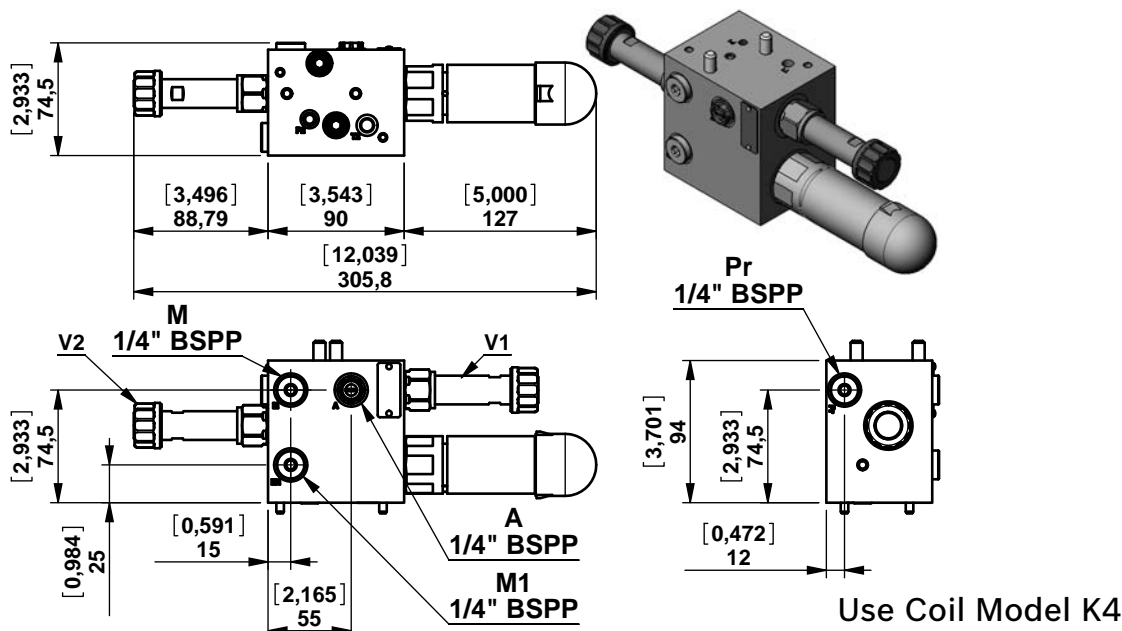
Code	Description	Max Working Pressure bar [psi]	Max Flow l/min [gpm]	Pressure Stage	Type	Material Number
MTD02/1	Kit MTD02/1 Modular block with pressure reducing valve	250 [3626]	12,0 [3,17]	Pressure setting up to 100 bar [1450]	0985900002	R932007965
MTD02/2	Kit MTD02/2 Modular block with pressure reducing valve	250 [3626]	12,0 [3,17]	Pressure setting up to 210 bar [3046]	0985900003	R932007966

### Mounting Example



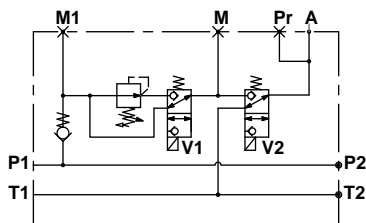
## Modular Stackable Elements

### MTD03



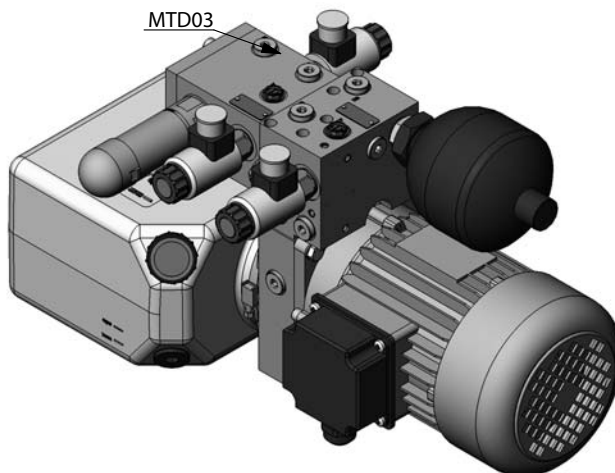
**Note:** For 3/2 KSDE solenoid valve check data sheet RE18136.

For KRD pressure reducing valve check data sheet RE18111.



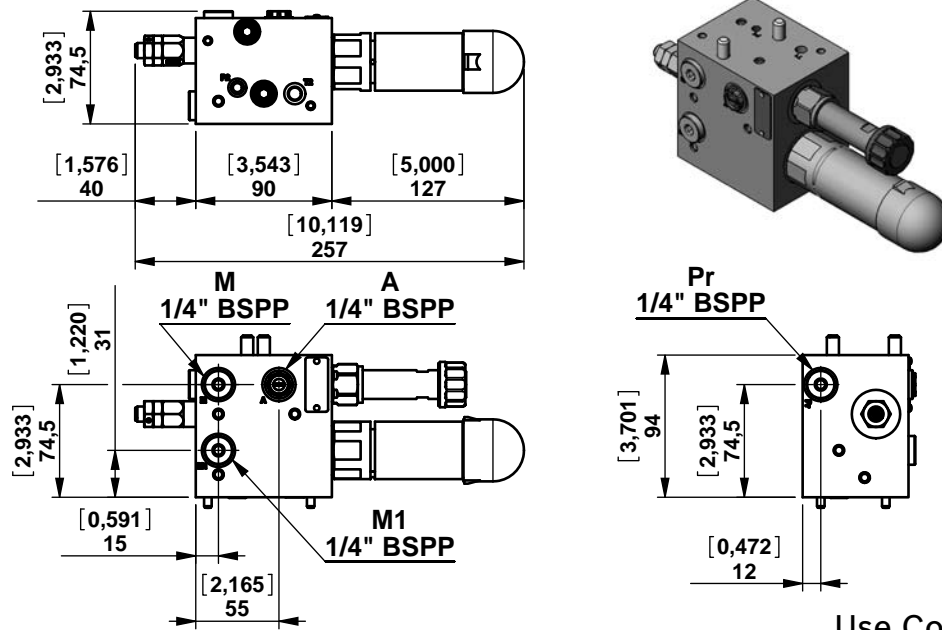
Code	Description	Max Working Pressure bar [psi]	Max Flow l/min [gpm]	Pressure Stage	Type	Material Number
MTD03/1	Kit MTD03/1 Modular block with pressure reducing valve	250 [3626]	12,0 [3,17]	Pressure setting up to 100 bar [1450]	0985900005	R932007974
MTD03/2	Kit MTD03/2 Modular block with pressure reducing valve	250 [3626]	12,0 [3,17]	Pressure setting up to 210 bar [3046]	0985900006	R932007975

### Mounting Example



## Modular Stackable Elements

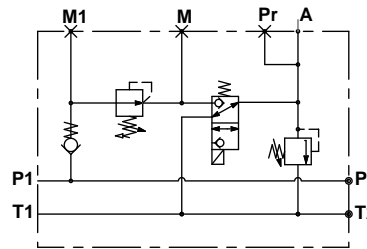
### MTD04



Use Coil Model K4

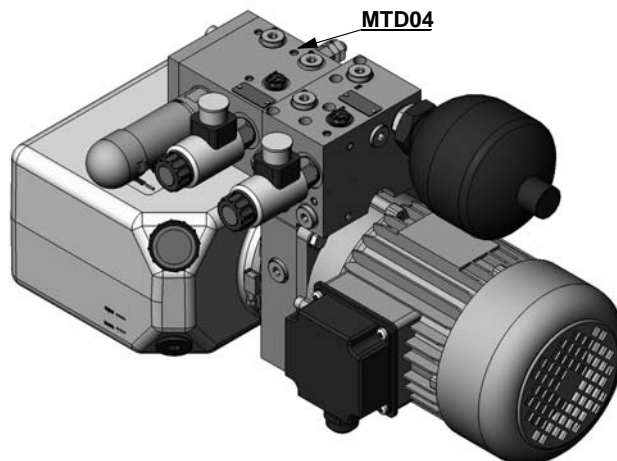
**Note:** For 3/2 KSDE solenoid valve check data sheet RE18136.

For KRD pressure reducing valve check data sheet RE18111.



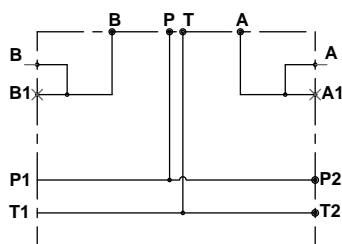
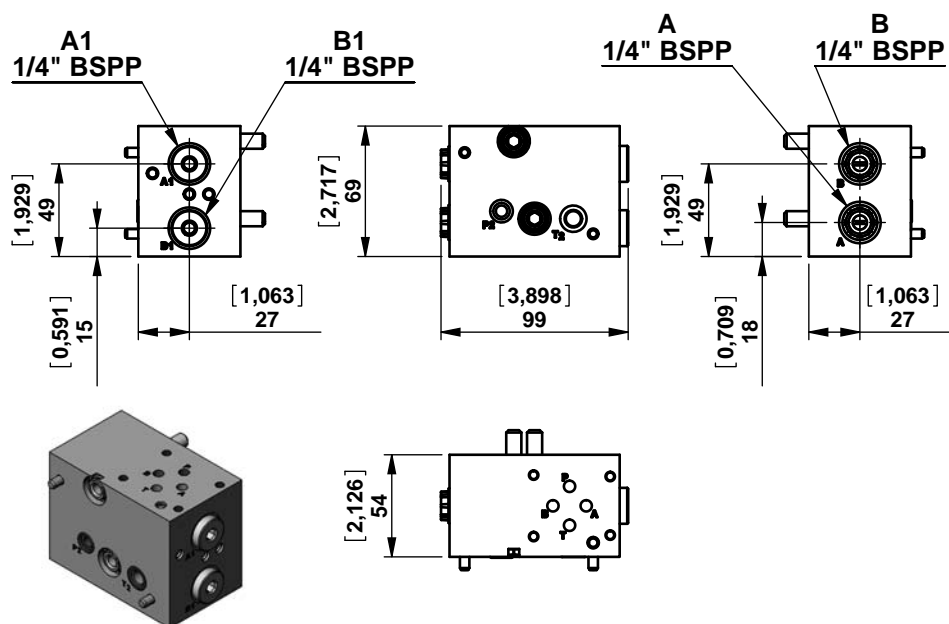
Code	Description	Max Working Pressure bar [psi]	Max Flow l/min [gpm]	Pressure Stage	Type	Material Number
MTD04/1	Kit MTD04/1 Modular block with pressure reducing valve	250 [3626]	12,0 [3,17]	Pressure setting up to 100 bar [1450]	0985900008	R932007983
MTD04/2	Kit MTD04/2 Modular block with pressure reducing valve	250 [3626]	12,0 [3,17]	Pressure setting up to 210 bar [3046]	0985900009	R932007984

### Mounting Example



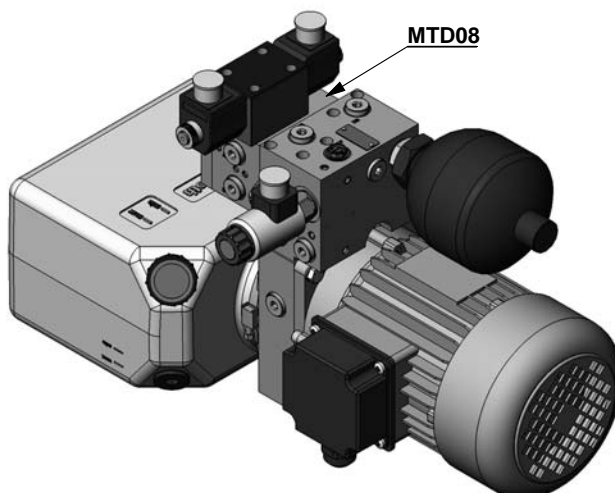
## Modular Stackable Elements

### MTD08



Code	Description	Max Working Pressure bar [psi]	Max Flow l/min [gpm]	Type	Material Number
<b>MTD08</b>	Kit MTD08 Modular block	250 [3626]	20,0 [5,28]	0985900012	R932007997

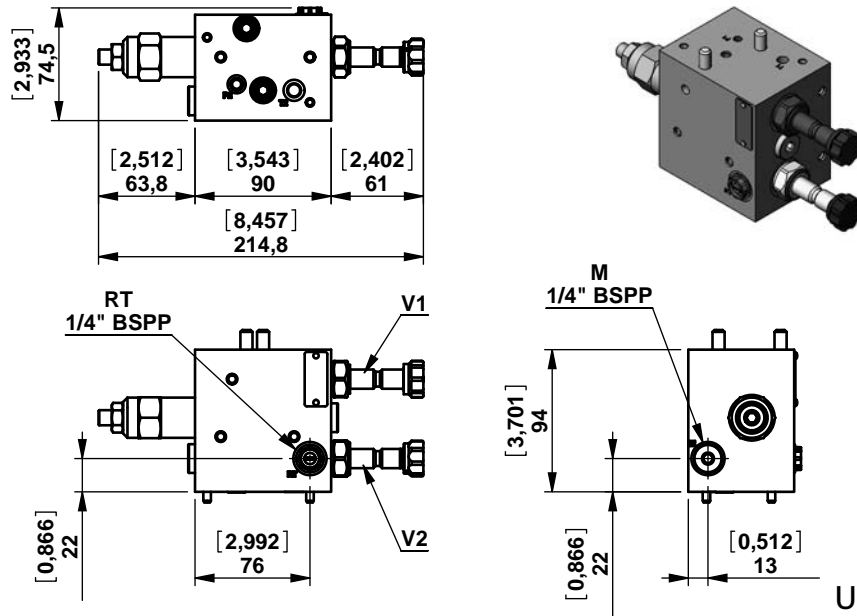
### Mounting Example



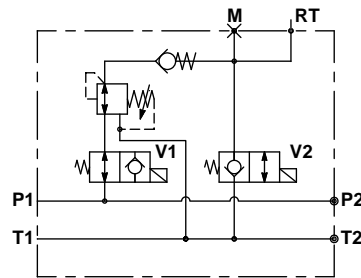


## Modular Stackable Elements

### RT60

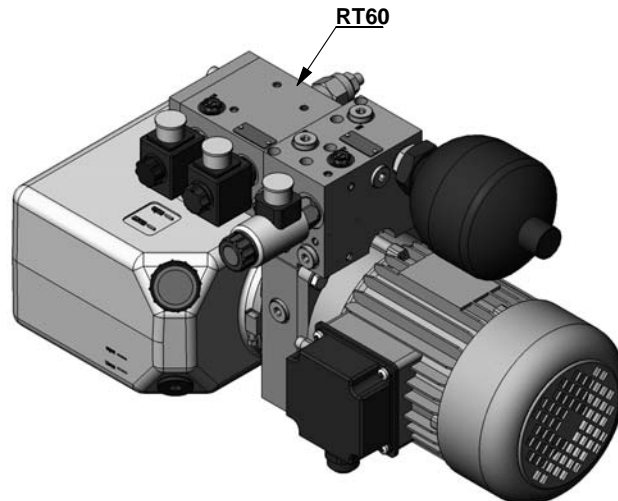


Use Coil Model S8



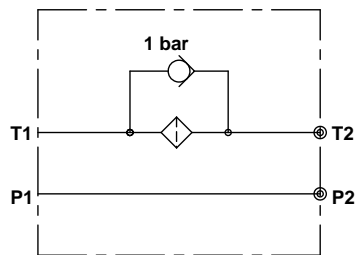
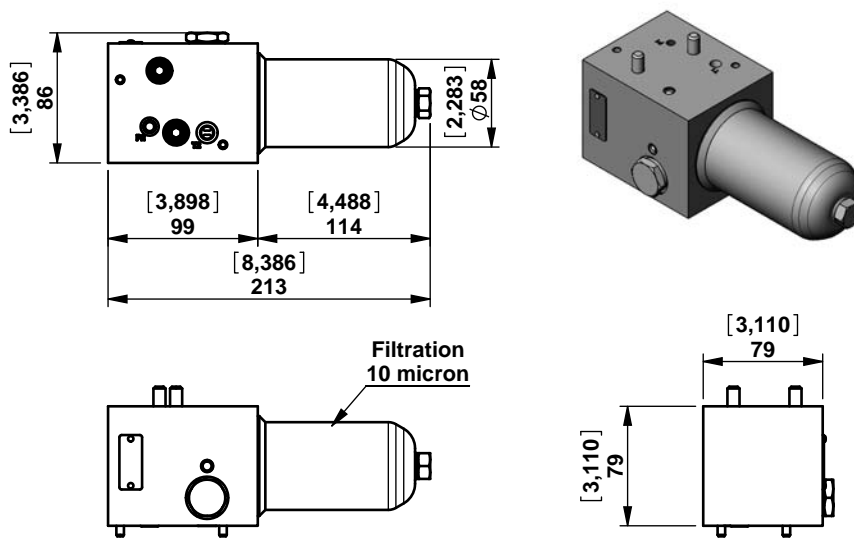
Code	Description	Max Working Pressure bar [psi]	Max Flow l/min [gpm]	Pressure Stage	Type	Material Number
<b>RT60/05</b>	Kit RT60/05 Modular block with pressure reducing valve	250 [3626]	20,0 [5,28]	Pressure setting up to 10-50 bar [145-725]	0985900020	R932008367
<b>RT60/08</b>	Kit RT60/08 Modular block with pressure reducing valve	250 [3626]	20,0 [5,28]	Pressure setting up to 28-80 bar [406-1160]	0985900019	R932008361

### Mounting Example



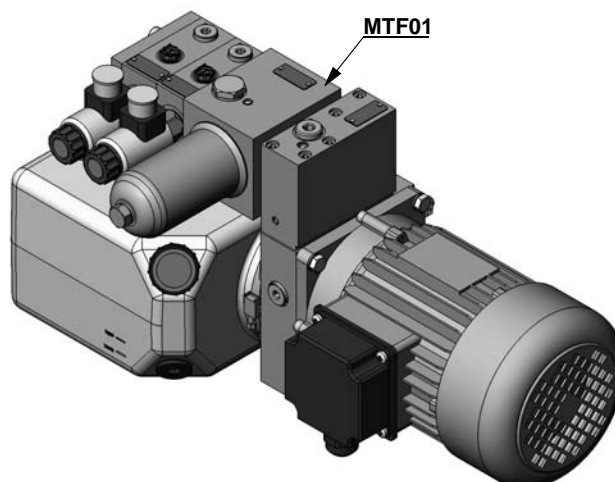
## Modular Stackable Elements

### MTF01



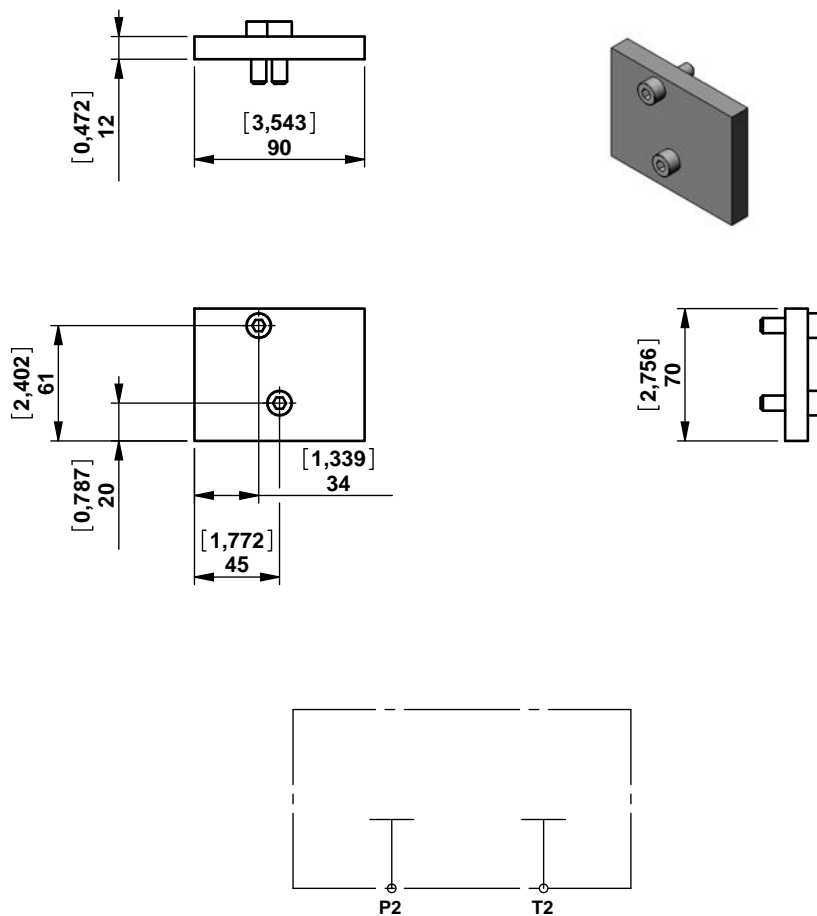
Code	Description	Max Working Pressure bar [psi]	Max Flow l/min [gpm]	Type	Material Number
<b>MTF01</b>	Kit MTF01 Modular block	250 [3626]	15,0 [3,96]	0985900022	R932011139

### Mounting Example



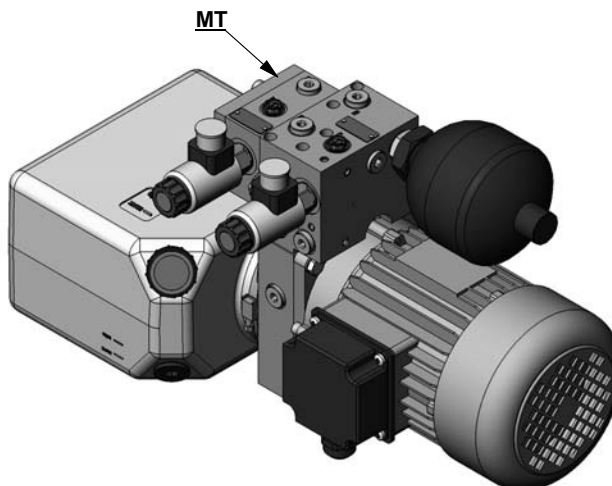
## Modular Stackable Elements

### MT



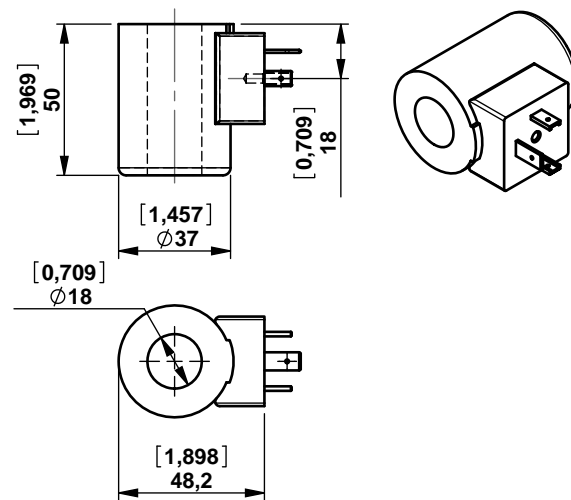
Code	Description	Type	Material Number
MT	Kit MT Closing plate	0985900016	R932008159

### Mounting Example

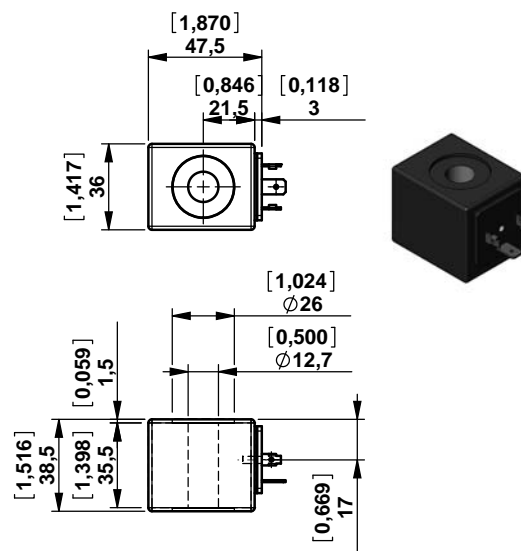


## Coils

## K4



Code	Connection	Voltage	Material Number
<b>OB</b>	03-pin (2+PE) DIN EN 175301-803	12 V	R900991678
<b>OC</b>	03-pin (2+PE) DIN EN 175301-803	24 V	R900991121

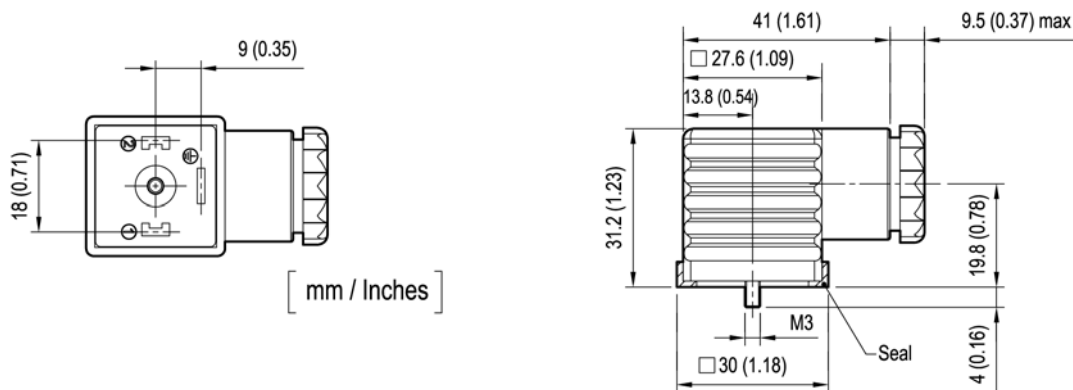
**S8** (only for Modular Block RT60)

Code	Connection	Voltage	Material Number
<b>OB</b>	DIN 43650 - ISO 4400	12 V	R901090821
<b>OC</b>	DIN 43650 - ISO 4400	24 V	R901083065

## Connectors

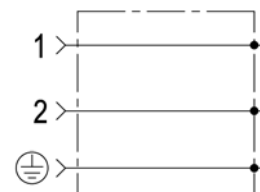
### CONNECTOR IP67 - EN175000 (DIN 4350-A) / ISO 4400

Ambient temperature - Standard	°C [°F]	- 20 to + 60 [-4 to +140°F]
Type of protection according to DIN 40050		IP67 with cable socket mounted and locked
Operating voltage	V	Choose the proper ordering code according to the circuit
Maximum operating current - Standard	A	16
Number of pins		2 + PE
Clamping range for cables having an outer diameter of	mm [inch]	5, up to 10 [0,2 up to 0,4]
Cable entry		Pg9 / Pg11 (unified)
Maximum cable cross-section	mm <sup>2</sup> [inch <sup>2</sup> ]	1.5 [0,002]



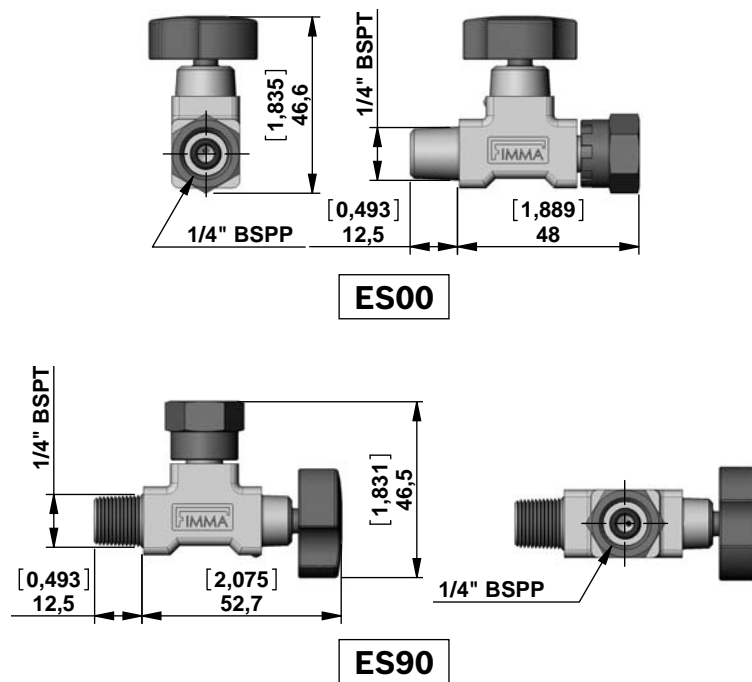
### Standard Circuit

Code	Colour	Cable entry	Type	Material Number
<b>WC</b>		Without Connector		
<b>CS</b>	black	Pg9 / Pg11	OD016901000000	R934004344



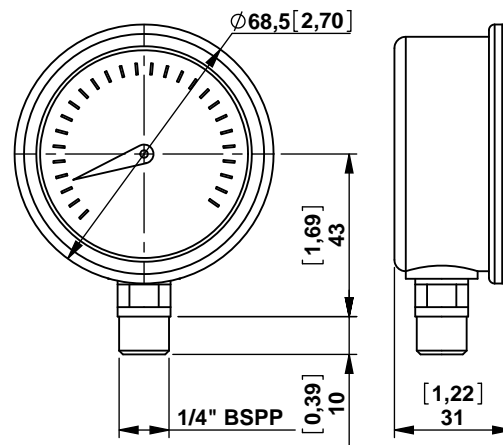
## Accessories

### Isolator



Code	Description	Type	Material Number
ES00	Straight isolator	EM 14	R932500182
ES90	90° isolator	EM 14 T	R932500184

### Manometer

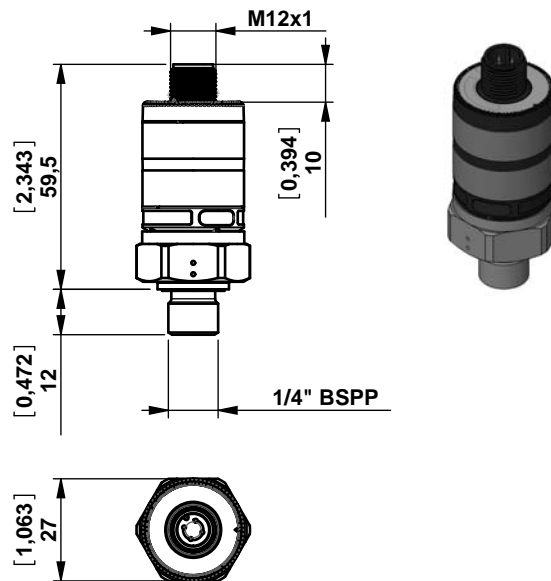


Code	Description	Pressure range bar [psi]	Type	Material Number
MN60	Pressure gauge	0-60 [0-870]	C163016000	R932000581
MN100	Pressure gauge	0-100 [0-1450]	C163017000	R932000582
MN160	Pressure gauge	0-160 [0-2320]	C163018000	R932000583
MN250	Pressure gauge	0-250 [0-3626]	C163019000	R932000584
MN315	Pressure gauge	0-315 [0-4568]	C163020000	R932000585

## Accessories

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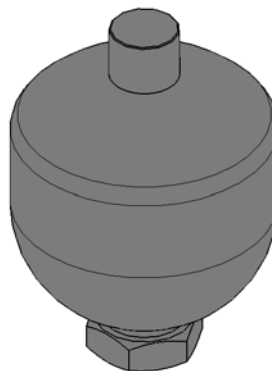
### Pressure Switches



**PLEASE NOTE: if you need a electronic pressure switch please refer to the data sheet RE 30279/10.08**

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### Accumulator



**PLEASE NOTE: if you need an diaphragm-type accumulator please refer to the data sheet RE 50150/01.2013**

