



**TECAPRES®**

**MANIFOLD CYLINDERS**

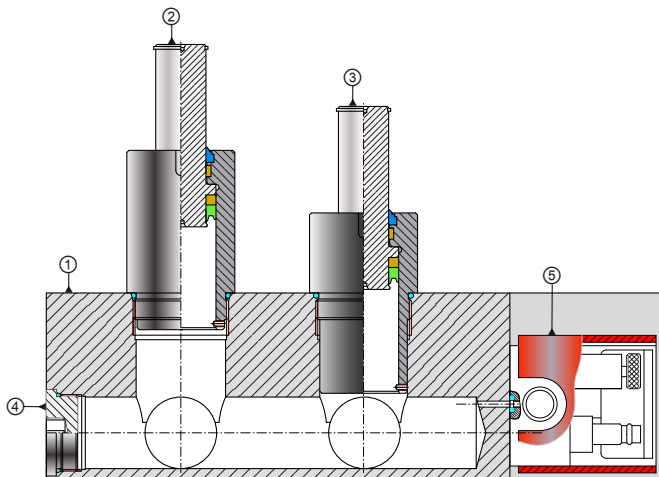


**NEW**

**New Inch Manifold range**



## Components description



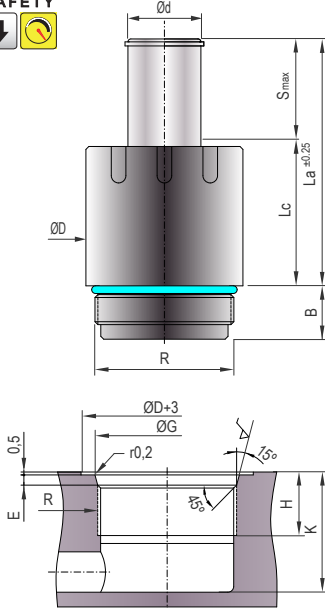
- ① Manifold plate
- ② Manifold gas spring type TPMPR
- ③ Manifold gas spring type TPMRD and TPRMG
- ④ Port plugs
- ⑤ Control panel

## Manifold system advantages



- ✓ Fulfills European Pressure Equipment Directive 2014/68/UE
- ✓ VDI safety features
- ✓ Uniform and perfectly balanced forces
- ✓ Maximum force density in compact spaces
- ✓ Easy force regulation through a control panel
- ✓ Reduced potential leak points vs. conventional hoses cylinder layouts
- ✓ Cylinders designed with floating guiding system

VDI SAFETY



Pressure medium	Nitrogen (N <sub>2</sub> )
Max. charging pressure	150 Bar / 2175psi
Min. charging pressure	25 Bar / 362psi
Operating temperature	0°C - 80°C / 32°F - 176°F
Force increase by temperature	0,33 %/°C (°F)
Max. stem speed	1 m/s
Recommended max. strokes/min	20-50 spm



Overpressure safety device through control panel

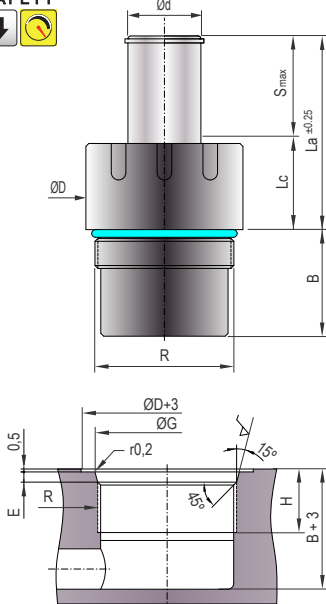
Model	Piston seal area	Maintenance kit
TPMR 41	4,91 cm <sup>2</sup>	Kit MR41
TPMR 54	9,62 cm <sup>2</sup>	Kit MR54
TPMR 70	22,90 cm <sup>2</sup>	Kit MR70
TPMR 90	33,18 cm <sup>2</sup>	Kit MR90

Mounting options



Code	Smax		La		Lc		Fa daN	Ø d	Ø D	R	B	Ø G	E	H	K	
	mm	inch	mm	inch	mm	inch										
TPMR 41x0,25	6,3	0,25	29,5	1,16	23,1	0,91	500 ±5%	750 ±5%	20mm 0,79 in	41mm 1,61 in	15/16 - 12	22,4mm 0,88 in	35,5mm 1,40 in	3,5mm 0,14 in	20mm 0,79 in	25mm 0,98 in
TPMR 41x0,50	12,7	0,50	42,2	1,66	29,5	1,16										
TPMR 41x0,75	19,0	0,75	54,9	2,16	35,8	1,41										
TPMR 41x1,00	25,4	1,00	67,6	2,66	42,2	1,66										
TPMR 41x1,50	38,1	1,50	93,0	3,66	54,9	2,16										
TPMR 41x2,00	50,8	2,00	118,4	4,66	67,6	2,66										
TPMR 41x2,50	63,5	2,50	143,8	5,66	80,3	3,16										
TPMR 41x3,00	76,2	3,00	169,2	6,66	93,0	3,66										
TPMR 41x3,50	88,9	3,50	194,6	7,66	105,7	4,16										
TPMR 41x4,00	101,6	4,00	220,0	8,66	118,4	4,66										
TPMR 54x0,50	12,7	0,50	48,5	1,91	35,8	1,41	1000 ±5%	1500 ±5%	25mm 0,98 in	54mm 2,13 in	1 7/8 - 12	18,3mm 0,72 in	49,8mm 1,96 in	3,5mm 0,14 in	20mm 0,79 in	25mm 0,98 in
TPMR 54x0,75	19,0	0,75	61,2	2,41	42,2	1,66										
TPMR 54x1,00	25,4	1,00	73,9	2,91	48,5	1,91										
TPMR 54x1,50	38,1	1,50	99,3	3,91	61,2	2,41										
TPMR 54x2,00	50,8	2,00	124,7	4,91	73,9	2,91										
TPMR 54x2,50	63,5	2,50	150,1	5,91	86,6	3,41										
TPMR 54x3,00	76,2	3,00	175,5	6,91	99,3	3,91										
TPMR 54x3,50	88,9	3,50	200,9	7,91	112,0	4,41										
TPMR 54x4,00	101,6	4,00	226,3	8,91	124,7	4,91										
TPMR 70x0,50	12,7	0,50	48,5	1,91	35,8	1,41										
TPMR 70x0,75	19,0	0,75	61,2	2,41	42,2	1,66										
TPMR 70x1,00	25,4	1,00	73,9	2,91	48,5	1,91										
TPMR 70x1,50	38,1	1,50	99,3	3,91	61,2	2,41										
TPMR 70x2,00	50,8	2,00	124,7	4,91	73,9	2,91										
TPMR 70x2,50	63,5	2,50	150,1	5,91	86,6	3,41										
TPMR 70x3,00	76,2	3,00	175,5	6,91	99,3	3,91										
TPMR 70x3,50	88,9	3,50	200,9	7,91	112,0	4,41										
TPMR 70x4,00	101,6	4,00	226,3	8,91	124,7	4,91										
TPMR 90x0,50	12,7	0,50	48,5	1,91	35,8	1,41	3300 ±5%	5000 ±5%	45mm 1,77 in	90mm 3,54 in	M82 x 2	31,8mm 1,25 in	84,7mm 3,33 in	4,4mm 0,17 in	30mm 1,18 in	34mm 1,34 in
TPMR 90x0,75	19,0	0,75	61,2	2,41	42,2	1,66										
TPMR 90x1,00	25,4	1,00	73,9	2,91	48,5	1,91										
TPMR 90x1,50	38,1	1,50	99,3	3,91	61,2	2,41										
TPMR 90x2,00	50,8	2,00	124,7	4,91	73,9	2,91										
TPMR 90x2,50	63,5	2,50	150,1	5,91	86,6	3,41										
TPMR 90x3,00	76,2	3,00	175,5	6,91	99,3	3,91										
TPMR 90x3,50	88,9	3,50	200,9	7,91	112,0	4,41										
TPMR 90x4,00	101,6	4,00	226,3	8,91	124,7	4,91										

**VDI SAFETY**

**PED**  
2014/68/EU


Pressure medium	Nitrogen (N <sub>2</sub> )
Max. charging pressure	150 Bar / 2175psi
Min. charging pressure	25 Bar / 362psi
Operating temperature	0°C - 80°C / 32°F - 176°F
Force increase by temperature	0,33 %/°C (°F)
Max. stem speed	1 m/s
Recommended max. strokes/min	20-50 spm


**Overpressure safety device through control panel**

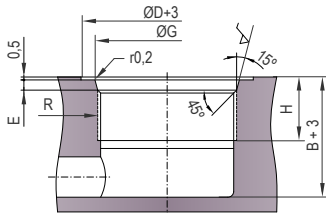
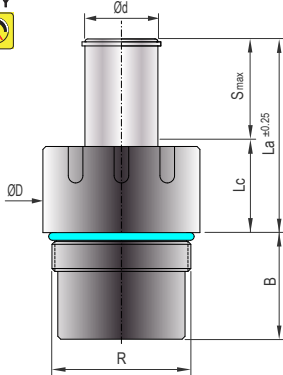
Model	Piston seal area	Maintenance kit
TPMRD 41	4,91 cm <sup>2</sup>	Kit MRD41
TPMRD 54	9,62 cm <sup>2</sup>	Kit MRD54
TPMRD 70	22,90 cm <sup>2</sup>	Kit MRD70
TPMRD 90	33,18 cm <sup>2</sup>	Kit MRD90

Mounting options



Code	Smax		La		Lc	Fa daN	Ø d	Ø D	R	B		Ø G	E	H												
	mm	inch	mm	inch						mm	inch															
TPMRD 41x0,25	6,3	0,25	48,5	1,91	42,2mm 1,66 in	500 ±5%	20mm 0,79 in	41mm 1,61 in	15/16 - 12	15,0	0,59	35,5mm 1,40 in	3,5mm 0,14 in	20mm 0,79 in												
TPMRD 41x0,50	12,7	0,50	54,9	2,16						15,0	0,59															
TPMRD 41x0,75	19,0	0,75	61,2	2,41						16,0	0,63															
TPMRD 41x1,00	25,4	1,00	67,6	2,66						22,4	0,88															
TPMRD 41x1,50	38,1	1,50	80,3	3,16						35,1	1,38															
TPMRD 41x2,00	50,8	2,00	93,0	3,66						47,8	1,88															
TPMRD 41x2,50	63,5	2,50	105,7	4,16						60,5	2,38															
TPMRD 41x3,00	76,2	3,00	118,4	4,66						73,2	2,88															
TPMRD 41x3,50	88,9	3,50	131,1	5,16						85,9	3,38															
TPMRD 41x4,00	101,6	4,00	143,8	5,66						98,6	3,88															
TPMRD 54x1,00	25,4	1,00	67,6	2,66						24,6	0,97				25mm 0,98 in	54mm 2,13 in	1 7/8 - 12	37,3	1,47	49,8mm 1,96 in	3,5mm 0,14 in	20mm 0,79 in				
TPMRD 54x1,50	38,1	1,50	80,3	3,16						50,0	1,97															
TPMRD 54x2,00	50,8	2,00	93,0	3,66						62,7	2,47															
TPMRD 54x2,50	63,5	2,50	105,7	4,16						75,4	2,97															
TPMRD 54x3,00	76,2	3,00	118,4	4,66						88,1	3,47															
TPMRD 54x3,50	88,9	3,50	131,1	5,16						100,8	3,97															
TPMRD 54x4,00	101,6	4,00	143,8	5,66																						
TPMRD 70x1,00	25,4	1,00	67,6	2,66	31,8	1,25	35mm 1,38 in	70mm 2,75 in	2 1/2 - 12	44,5	1,75	65,7mm 2,59 in	3,5mm 0,14 in	25mm 0,98 in												
TPMRD 70x1,50	38,1	1,50	80,3	3,16	57,2	2,25																				
TPMRD 70x2,00	50,8	2,00	93,0	3,66	69,9	2,75																				
TPMRD 70x2,50	63,5	2,50	105,7	4,16	82,6	3,25																				
TPMRD 70x3,00	76,2	3,00	118,4	4,66	95,3	3,75																				
TPMRD 70x3,50	88,9	3,50	131,1	5,16	108,0	4,25																				
TPMRD 70x4,00	101,6	4,00	143,8	5,66																						
TPMRD 90x1,00	25,4	1,00	67,6	2,66	38,1	1,50				45mm 1,77 in	90mm 3,54 in							M82 x 2	50,8				2,00	84,7mm 3,33 in	4,4mm 0,17 in	30mm 1,18 in
TPMRD 90x1,50	38,1	1,50	80,3	3,16	63,5	2,50																				
TPMRD 90x2,00	50,8	2,00	93,0	3,66	76,2	3,00																				
TPMRD 90x2,50	63,5	2,50	105,7	4,16	88,9	3,50																				
TPMRD 90x3,00	76,2	3,00	118,4	4,66	101,6	4,00																				
TPMRD 90x3,50	88,9	3,50	131,1	5,16																						
TPMRD 90x4,00	101,6	4,00	143,8	5,66	114,3	4,50																				

VDI SAFETY



Pressure medium	Nitrogen (N <sub>2</sub> )
Max. charging pressure	150 Bar / 2175psi
Min. charging pressure	25 Bar / 362psi
Operating temperature	0°C - 80°C / 32°F - 176°F
Force increase by temperature	0,33 %/°C (°F)
Max. stem speed	1 m/s
Recommended max. strokes/min	20-50 spm



Overpressure safety device through control panel

Model	Piston seal area	Maintenance kit
TPMRG 54	9,62 cm <sup>2</sup>	Kit MRG54
TPMRG 70	22,90 cm <sup>2</sup>	Kit MRG70

Mounting options

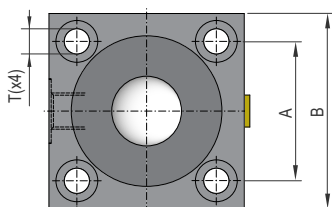
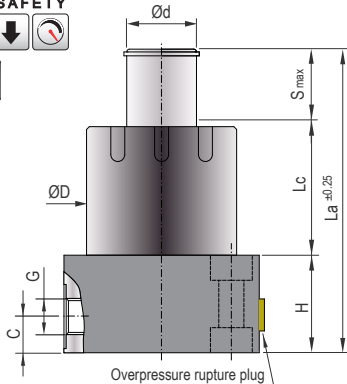


Code	Smax		La		Lc	Fa daN	Ø d	Ø D	R	B		Ø G	E	H
	mm	inch	mm	inch						mm	inch			
TPMRG 54x25	25	0,98	67	2,64	42mm 1,65 in	1000 ±5%	25mm 0,98 in	54mm 2,13 in	M48 x 2	23	0,91	50,2mm 1,98 in	3,5mm 0,14 in	20mm 0,79 in
TPMRG 54x38	38	1,50	80	3,15		1500 ±5%								
TPMRG 54x50	50	1,97	92	3,62		100Bar 1450psi				150Bar 2175psi				
TPMRG 54x75	75	2,95	117	4,61		110Bar 1595psi				130Bar 1885psi				
TPMRG 54x100	100	3,94	142	5,59	42mm 1,65 in	2500 ±5%	35mm 1,38 in	70mm 2,75 in	M64 x 2	23	0,91	66,2mm 2,61 in	3,5mm 0,14 in	20mm 0,79 in
TPMRG 70x25	25	0,98	67,6	2,64						3000 ±5%				
TPMRG 70x38	38	1,50	80,3	3,15						110Bar 1595psi	130Bar 1885psi			
TPMRG 70x50	50	1,97	93,0	3,62						110Bar 1595psi	130Bar 1885psi			
TPMRG 70x75	75	2,95	105,7	4,61	42mm 1,65 in	2500 ±5%	35mm 1,38 in	70mm 2,75 in	M64 x 2	23	0,91	66,2mm 2,61 in	3,5mm 0,14 in	20mm 0,79 in
TPMRG 70x100	100	3,94	118,4	5,59						3000 ±5%				
TPMRG 70x25	25	0,98	67,6	2,64						110Bar 1595psi	130Bar 1885psi			
TPMRG 70x38	38	1,50	80,3	3,15						110Bar 1595psi	130Bar 1885psi			

VDI SAFETY



PED  
2014/68/EU



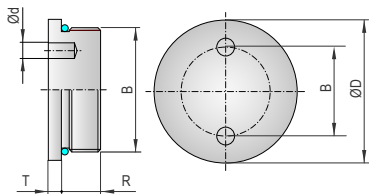
Pressure medium	Nitrogen (N <sub>2</sub> )
Max. charging pressure	150 Bar / 2175psi
Min. charging pressure	25 Bar / 362psi
Operating temperature	0°C - 80°C / 32°F - 176°F
Force increase by temperature	0,33 %/°C (°F)
Max. stem speed	1 m/s
Recommended max. strokes/min	20-50 spm

Model	Piston seal area	Maintenance kit
TPMR 41-BP	4,91 cm <sup>2</sup>	Kit MR41-BP
TPMR 54-BP	9,62 cm <sup>2</sup>	Kit MR54-BP
TPMR 70-BP	22,90 cm <sup>2</sup>	Kit MR70-BP
TPMR 90-BP	33,18 cm <sup>2</sup>	Kit MR90-BP

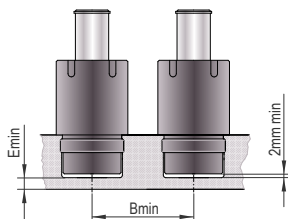
### Mounting options



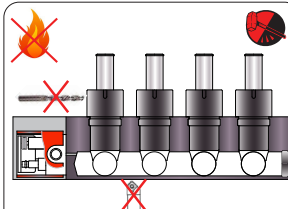
Code	Smax		La		Lc		Fa daN	Ø d	Ø D	H	A	B	C	G	T	
	mm	inch	mm	inch	mm	inch										
TPMR 41x0,25-BP	6,3	0,25	64,5	2,54	23,1	0,91	500 ±5%	750 ±5%	20mm 0,79 in	41mm 1,61 in	35mm 1,38 in	40mm 1,57 in	58mm 2,28 in	13mm 0,51 in	G1/4"	M8
TPMR 41x0,50-BP	12,7	0,50	77,2	3,04	29,5	1,16										
TPMR 41x0,75-BP	19,0	0,75	89,9	3,54	35,8	1,41										
TPMR 41x1,00-BP	25,4	1,00	102,6	4,04	42,2	1,66										
TPMR 41x1,50-BP	38,1	1,50	128,0	5,04	54,9	2,16										
TPMR 41x2,00-BP	50,8	2,00	153,4	6,04	67,6	2,66										
TPMR 41x2,50-BP	63,5	2,50	178,8	7,04	80,3	3,16										
TPMR 41x3,00-BP	76,2	3,00	204,2	8,04	93,0	3,66										
TPMR 41x3,50-BP	88,9	3,50	229,6	9,04	105,7	4,16										
TPMR 41x4,00-BP	101,6	4,00	255,0	10,04	118,4	4,66										
TPMR 54x0,50-BP	12,7	0,50	83,5	3,29	35,8	1,41	1000 ±5%	1500 ±5%	25mm 0,98 in	54mm 2,13 in	35mm 1,38 in	50mm 1,97 in	70mm 2,75 in	13mm 0,51 in	G1/4"	M8
TPMR 54x0,75-BP	19,0	0,75	96,2	3,79	42,2	1,66										
TPMR 54x1,00-BP	25,4	1,00	108,9	4,29	48,5	1,91										
TPMR 54x1,50-BP	38,1	1,50	134,3	5,29	61,2	2,41										
TPMR 54x2,00-BP	50,8	2,00	159,7	6,29	73,9	2,91										
TPMR 54x2,50-BP	63,5	2,50	185,1	7,29	86,6	3,41										
TPMR 54x3,00-BP	76,2	3,00	210,5	8,29	99,3	3,91										
TPMR 54x3,50-BP	88,9	3,50	235,9	9,29	112,0	4,41										
TPMR 54x4,00-BP	101,6	4,00	261,3	10,29	124,7	4,91										
TPMR 70x0,50-BP	12,7	0,50	88,5	3,48	35,8	1,41										
TPMR 70x0,75-BP	19,0	0,75	101,2	3,98	42,2	1,66										
TPMR 70x1,00-BP	25,4	1,00	113,9	4,48	48,5	1,91										
TPMR 70x1,50-BP	38,1	1,50	139,3	5,48	61,2	2,41										
TPMR 70x2,00-BP	50,8	2,00	164,7	6,48	73,9	2,91										
TPMR 70x2,50-BP	63,5	2,50	190,1	7,48	86,6	3,41										
TPMR 70x3,00-BP	76,2	3,00	215,5	8,48	99,3	3,91										
TPMR 70x3,50-BP	88,9	3,50	240,9	9,48	112,0	4,41										
TPMR 70x4,00-BP	101,6	4,00	266,3	10,48	124,7	4,91										
TPMR 90x0,50-BP	12,7	0,50	98,5	3,88	35,8	1,41	3300 ±5%	5000 ±5%	45mm 1,77 in	90mm 3,54 in	50mm 1,97 in	85mm 3,35 in	110mm 4,33 in	20mm 0,79 in	G1/2"	M10
TPMR 90x0,75-BP	19,0	0,75	111,2	4,38	42,2	1,66										
TPMR 90x1,00-BP	25,4	1,00	123,9	4,88	48,5	1,91										
TPMR 90x1,50-BP	38,1	1,50	149,3	5,88	61,2	2,41										
TPMR 90x2,00-BP	50,8	2,00	174,7	6,88	73,9	2,91										
TPMR 90x2,50-BP	63,5	2,50	200,1	7,88	86,6	3,41										
TPMR 90x3,00-BP	76,2	3,00	225,5	8,88	99,3	3,91										
TPMR 90x3,50-BP	88,9	3,50	250,9	9,88	112,0	4,41										
TPMR 90x4,00-BP	101,6	4,00	276,3	10,88	124,7	4,91										

**Port Plugs**


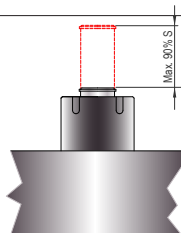
Code	R	ØD	L	T	Ød	S
MR 41x20	1 5/16 - 12	38	15	4	5	20
MR 54x20	1 7/8 - 12	54	15	5	6	30
MR 70x20	2 1/2 - 12	70	15	5	6	45
MR 90x25	M82x2	90	20	6	6	65



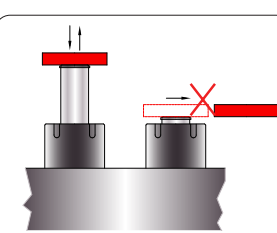
Code	R	Emin	Bmin
MR 41x20	1 5/16 - 12	10	55
MR 54x20	1 7/8 - 12	11	65
MR 70x20	2 1/2 - 12	12	85
MR 90x25	M82x2	15	105



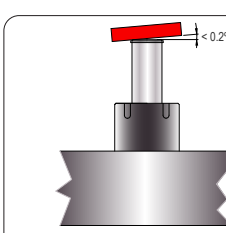
Any mechanical operation (machining, drilling, welding...) on the gas spring is strictly prohibited.



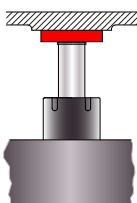
Working stroke: Max. 90%(S)



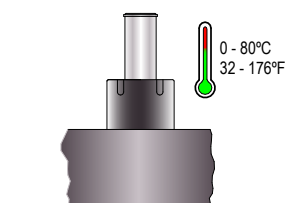
Prevent uncontrolled release to avoid discharges or components damage.



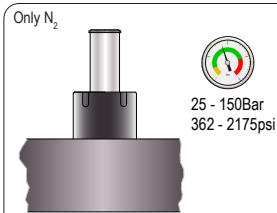
Maximum deviation:  $< 0,2^\circ$



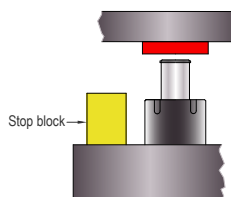
Tempered plate should be used in contact surface with cylinder.



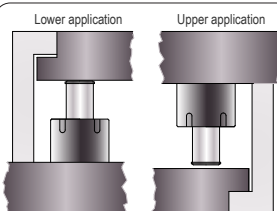
The maximum operating temperature is 80°C.



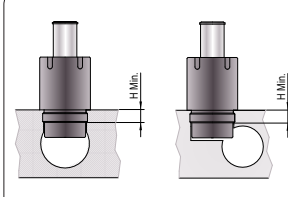
Respect the maximum loading pressures indicated in the manifold plate or in the cylinders.



Use stop blocks to prevent damages to the cylinders in case the pad is overstroked.



Design with die open clearance.



Ensure compression holes do not affect cylinder cavity thread length.