

# MESSKO® MSafe® BUCHHOLZ RELAY



## ORDERING SPECIFICATIONS.

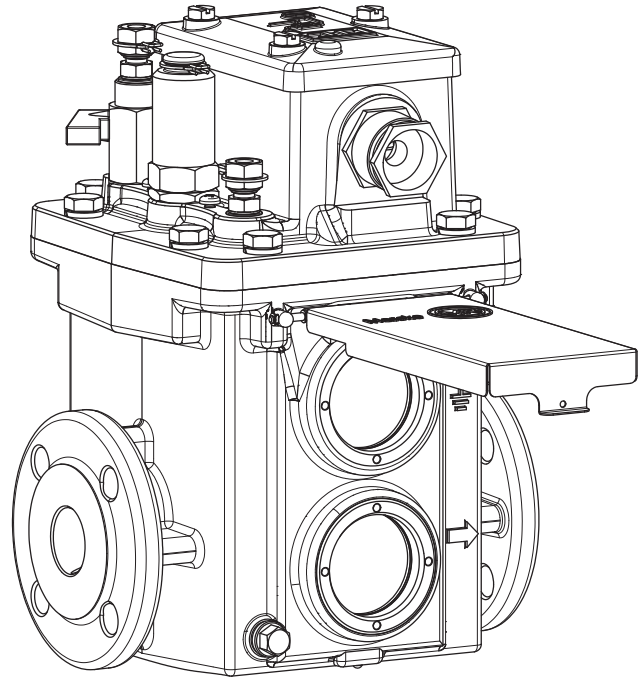
MESSKO INSTRUMENTS

MESSKO® MSafe®  
Buchholz relay

Project/Reference: \_\_\_\_\_

Connecting flange					
<input type="checkbox"/>	MBR25-6	DN25/0.98"	PN6	p.c.d.75	4 holes
<input type="checkbox"/>	MBR25-16*)	DN25/0.98"	PN16	p.c.d.85	4 holes
<input type="checkbox"/>	MBR25-G	DN25/0.98"	G1 1/2"		
<input type="checkbox"/>	MBR50-6/4 *)	DN50/1.97"	PN6	p.c.d.110	4 holes
<input type="checkbox"/>	MBR50-6/6 *)	DN50/1.97"	PN6	p.c.d.110	6 holes
<input type="checkbox"/>	MBR50-16/4 *)	DN50/1.97"	PN16	p.c.d.125	4 holes
<input type="checkbox"/>	MBR80-6/4 *)	DN80/3.15"	PN6	p.c.d.150	4 holes
<input type="checkbox"/>	MBR80-6/6 *)	DN80/3.15"	PN6	p.c.d.130	6 holes
<input type="checkbox"/>	MBR80-16/4 *)	DN80/3.15"	PN16	p.c.d.160	4 holes
<input type="checkbox"/>	MBR80-16/8 *)	DN80/3.15"	PN16	p.c.d.160	8 holes
<input type="checkbox"/>	MBR80-CH *)	DN80/3.15"		p.c.d.160	4 holes
<input type="checkbox"/>	MBR80-QU *)	DN80/3.15"		p.c.d.132	4 holes

\*) Offshore model available



Contact type *)	Contacts S1/S2	Contacts S3/S4 **)
NC	<input type="checkbox"/>	<input type="checkbox"/>
NO	<input type="checkbox"/>	<input type="checkbox"/>
CO	<input type="checkbox"/>	<input type="checkbox"/>

\*) For all contact positions use either NC, NO or CO contacts (see also page 7).  
The combination of different contact types is not possible.

\*\*\*) Optional

Isolation liquid
<input type="checkbox"/> Mineral oil
<input type="checkbox"/> Alternative isolation liquid

Color housing
<input type="checkbox"/> RAL 7033
<input type="checkbox"/> RAL 7038 (similar to ANSI 70 light grey)
Other colors on request

Triggering pressure flap *)
<input type="checkbox"/> 1 m/s
<input type="checkbox"/> 1.2 m/s (DN25 only)
<input type="checkbox"/> 1.3 m/s
<input type="checkbox"/> 1.5 m/s
<input type="checkbox"/> 2 m/s
<input type="checkbox"/> 2.5 m/s (DN25 and DN80 only)
<input type="checkbox"/> 3 m/s (only on request)
*) Other velocities on request

Cable gland
<input type="checkbox"/> 1x M25x1.5
<input type="checkbox"/> 2x M25x1.5
<input type="checkbox"/> 1x NPT 1/2" (not for offshore)
<input type="checkbox"/> 2x NPT 1/2" (not for offshore)
Other connections on request

Offshore model *)
<input type="checkbox"/> Offshore model includes: - Flange in offshore version - Color acc. protection class C5M - Attached parts made of suitable materials (V4A)
*) Only MBR25-16, MBR50 (all models), MBR80 (all models)

Options
<input type="checkbox"/> Inspection glass cover
<input type="checkbox"/> Reset for function test (manual reset)
<input type="checkbox"/> Connection for pneumatic test

Please enclose this order form filled in the order.

# MESSKO® MSafe® – BUCHHOLZ RELAY

## TECHNICAL DATA.

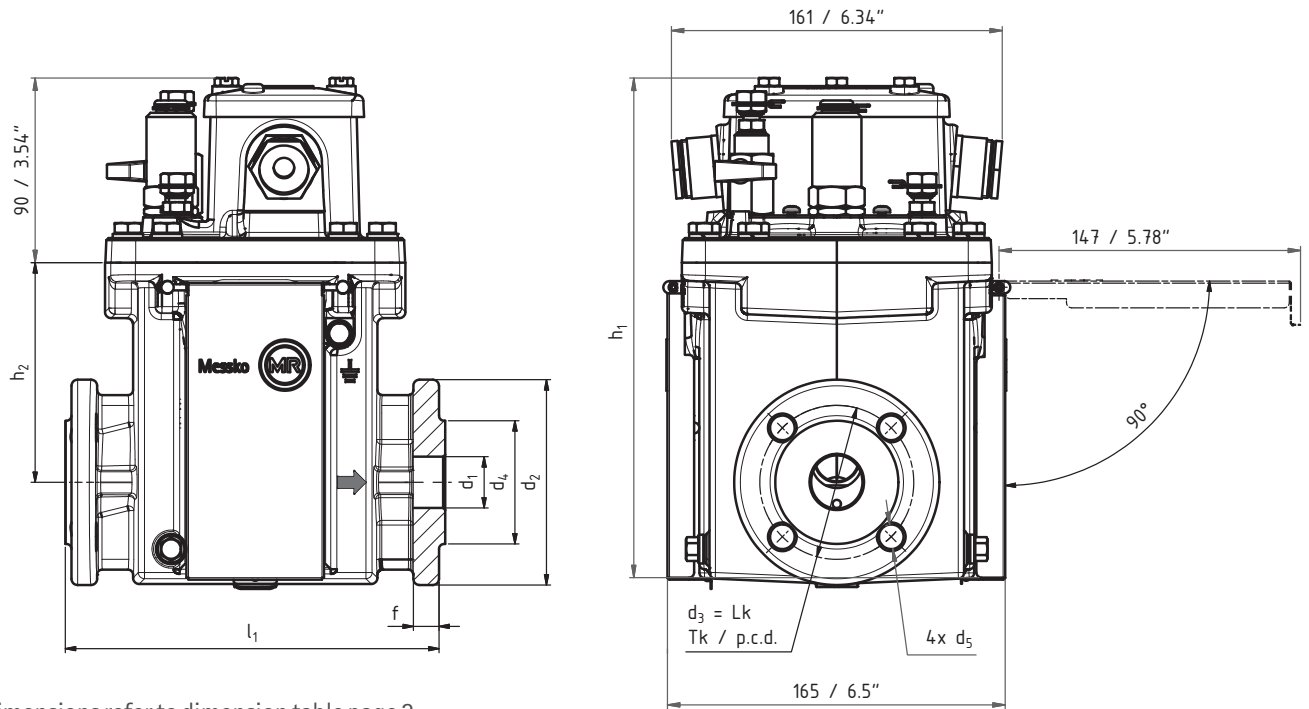
MESSKO® MSafe®	Technical data
<b>Materials</b>	
Housing and upper part inclusive terminal box	Aluminium casting, RAL 7033 or 7038 (similar to ANSI 70 light grey), powder coated; Offshore model on request; Design and construction acc. EN 50216-2
Inspection glass	Safety glass with UV filter
<b>Characteristic data</b>	
Installation	Indoors and outdoors, tropical proof
Ambient temperature	-50... 80 °C
Isolation liquid temperature	-30... 120 °C (mineral oil)
Protection mode	IP 55 as per DIN EN 60 529
Nominal tube diameter	DN25, DN50, DN80 or DN25 with G 1 1/2" threaded connection
Flap triggering pressure	For DN25 on customer request 1 m/s, 1.2 m/s, 1.3 m/s, 1.5 m/s, 2 m/s or 2.5 m/s (each ±15%); for DN50 on customer request 1 m/s, 1.3 m/s, 1.5 m/s or 2 m/s (each ±15%); for DN80 on customer request 1 m/s, 1.3 m/s, 1.5 m/s, 2 m/s or 2.5 m/s (each ±15%); 3 m/s for DN25, DN50, DN80 on request
Isolation liquid	Designed for isolation liquid acc. IEC 60296 Class II
<b>Protected reed switch</b>	
Number and type	Normally closed, normally open or changeover contacts on customer request; potential free; 2 pieces per function; maximum 4 pieces
Nominal voltage	24-250 V AC/DC
Max. nominal current	2 A AC/DC
Min. switching current	50 mA/24 V DC
Max. through-current	3 A AC/DC
Max. switching capacity AC	1.2 VA-400 VA
Max. switching capacity DC	1.2 W-250 W
Rated insulation voltage	2.7 kV AC/2 sec. contacts against housing; 1 kV AC/2 sec. open contacts
Insulation resistance	1000 MΩ/500 V DC
<b>Connection via terminal-box</b>	
Connection terminals	Min. 0.25 mm <sup>2</sup> / max. 4 mm <sup>2</sup>
Cable gland	M25x1.5 for cable ø 13...20 mm or 1/2" NPT
<b>Mechanical tests</b>	
Vibration	5-35 Hz and 10-150 Hz at 2 g, 2 h (IEC 60068-2-6)
Earthquake	2-10 Hz, 22.5 mm, 1 h (IEC 60068-2-57)
Shock	10 g, 10 ms (IEC 60068-2-27)
Continuous oscillation test	100, 200, 300, 400 Hz, 1 g, 2 h

Dimension table devices with circular flange

Type	d1	d2	d3 = p.c.d.	d4	Ø d5	f	l1	h1	h2
MBR25-6	25/0.98"	100/3.94"	75/2.95"	60/2.36"	4 x 12/0.47"	12,5/0.49"	185/7.28"	244/9.61"	107/4.21"
MBR25-16	25/0.98"	115/4.53"	85/3.35"	68/2.68"	4 x 14/0.55"	20/0.78"	200/7.87"	244/9.61"	107/4.21"
MBR25-G	25/0.98"	-	-	G1 1/2"	-	14,5/0.57"	185/7.28"	244/9.61"	107/4.21"
MBR50-6/4	50/1.97"	140/5.51"	110/4.33"	90/3.54"	4 x 14/0.55"	19/0.75"	185/7.28"	244/9.61"	95/3.74"
MBR50-6/6	50/1.97"	140/5.51"	110/4.33"	(140/5.51")	6 x 12/0.47"	14/0.55"	185/7.28"	244/9.61"	95/3.74"
MBR50-16/4	50/1.97"	165/6.50"	125/4.92"	102/4.02"	4 x 18/0.71"	23/0.91"	195/7.68"	244/9.61"	95/3.74"
MBR80-6/4	80/3.15"	190/7.48"	150/5.91"	130/5.12"	4 x 18/0.71"	15/0.59"	195/7.68"	244/9.61"	95/3.74"
MBR80-6/6	80/3.15"	160/6.30"	130/5.12"	(160/6.30")	6 x 12/0.47"	14/0.55"	185/7.28"	244/9.61"	95/3.74"
MBR80-16/4	80/3.15"	200/7.87"	160/6.29"	138/5.45"	4 x 18/0.71"	17,5/0.69"	195/7.68"	244/9.61"	95/3.74"
MBR80-16/8	80/3.15"	200/7.87"	160/6.29"	138/5.45"	6 x 18/0.71" 2 x M16	17,5/0.69"	195/7.68"	244/9.61"	95/3.74"

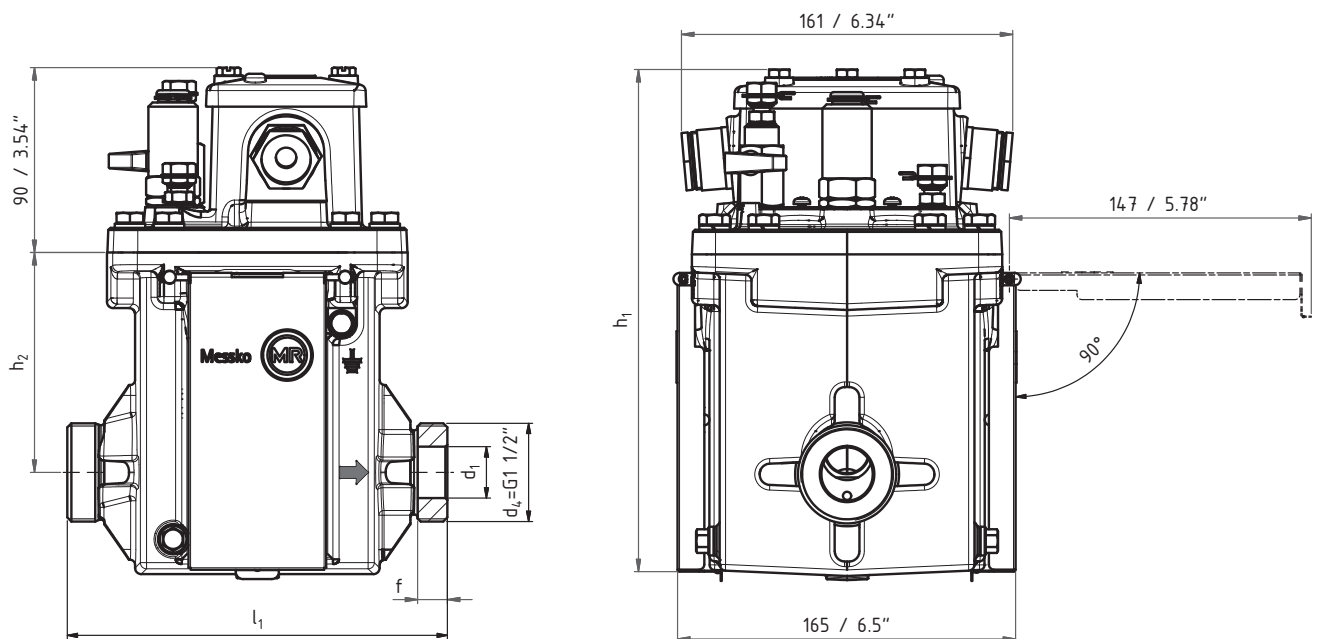
# MESKO® MSafe® – BUCHHOLZ RELAY DIMENSIONS DEVICES WITH CIRCULAR FLANGE.

## MESKO® MSafe® – Buchholz relay MBR25-6 and MBR25/16



For dimensions refer to dimension table page 2

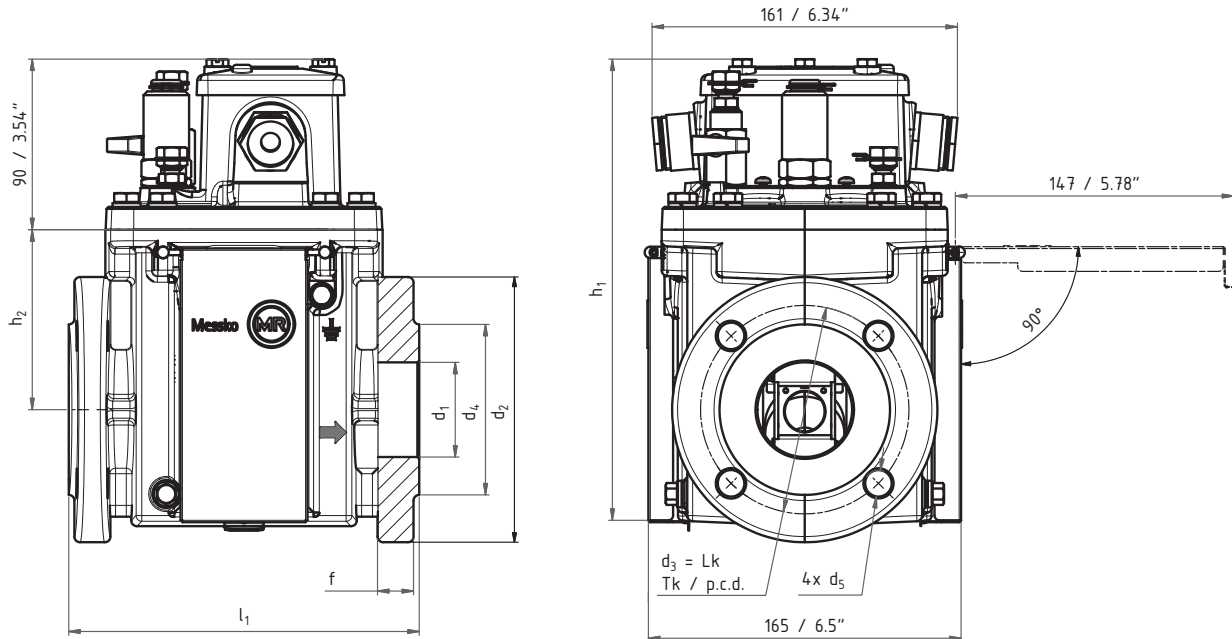
## MESKO® MSafe® – Buchholz relay MBR25-G



For dimensions refer to dimension table page 2

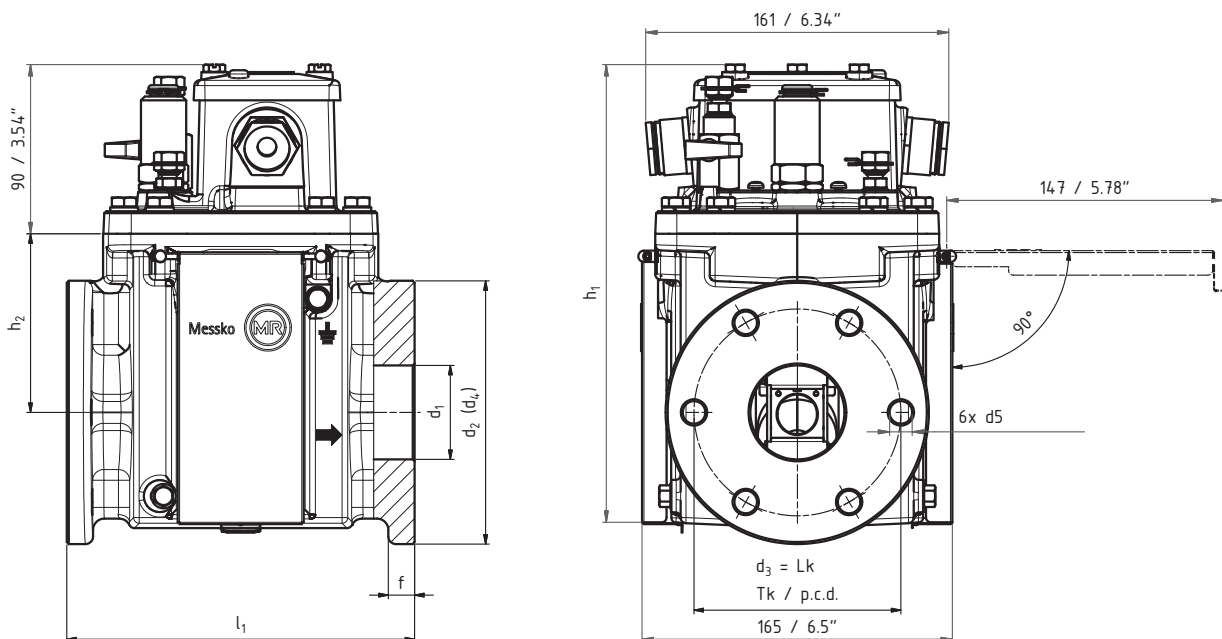
# MESSKO® MSafe® – BUCHHOLZ RELAY DIMENSIONS DEVICES WITH CIRCULAR FLANGE.

## MESSKO® MSafe® – Buchholz relay MBR50-6/4 and MBR50-16/4



For dimensions refer to dimension table page 2

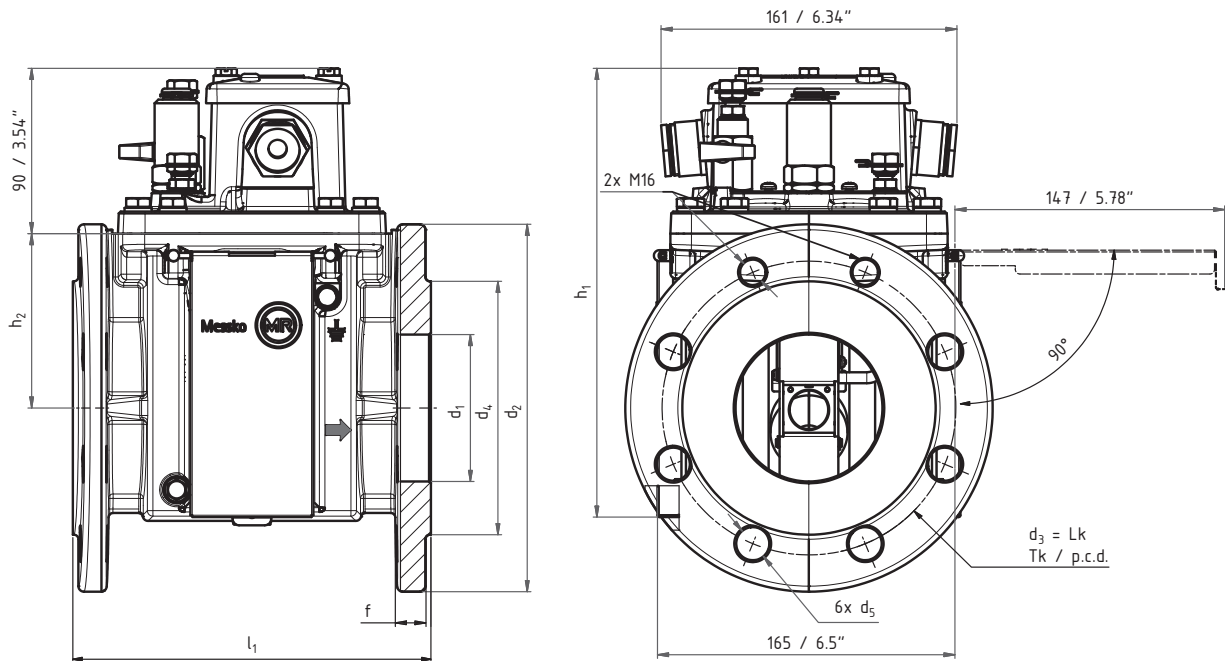
## MESSKO® MSafe® – Buchholz relay MBR50-6/6



For dimensions refer to dimension table page 2

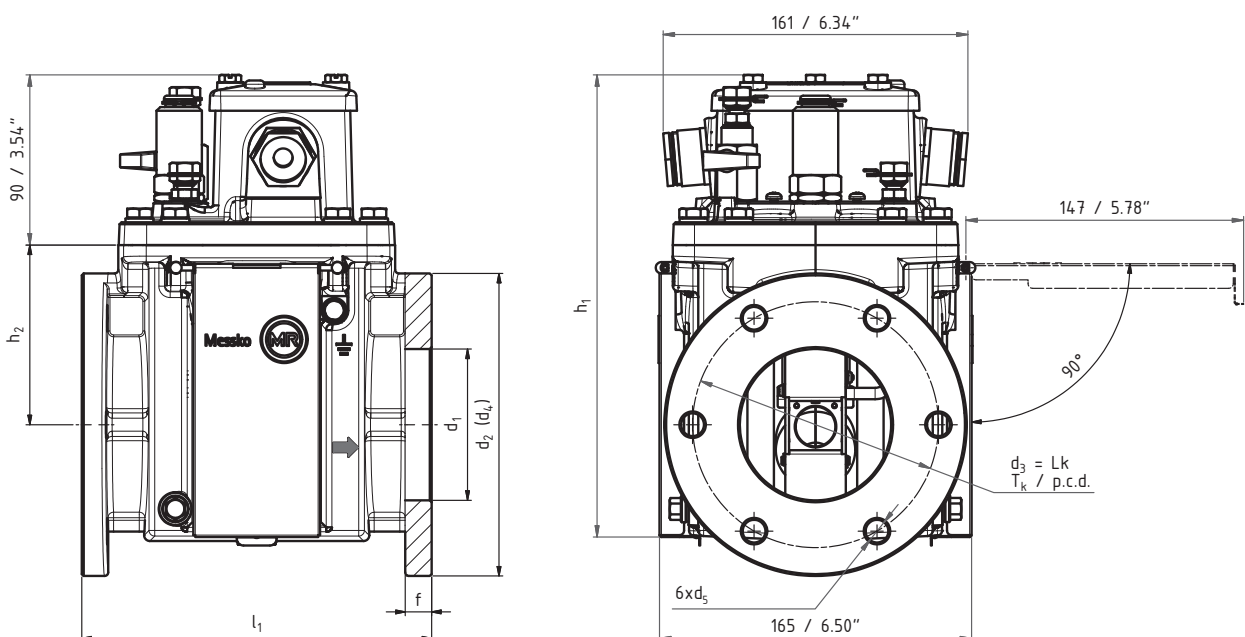
# MESSKO® MSafe® – BUCHHOLZ RELAY DIMENSIONS DEVICES WITH CIRCULAR FLANGE.

## MESSKO® MSafe® – Buchholz relay MBR80-6/4, MBR80-16/4 and MBR80-16/8



In the 4 hole versions of the MBR80 the 4 flange hole drills are arranged as in the MRB50-6/4.  
For dimensions refer to dimension table page 2.

## MESSKO® MSafe® – Buchholz relay MBR80-6/6

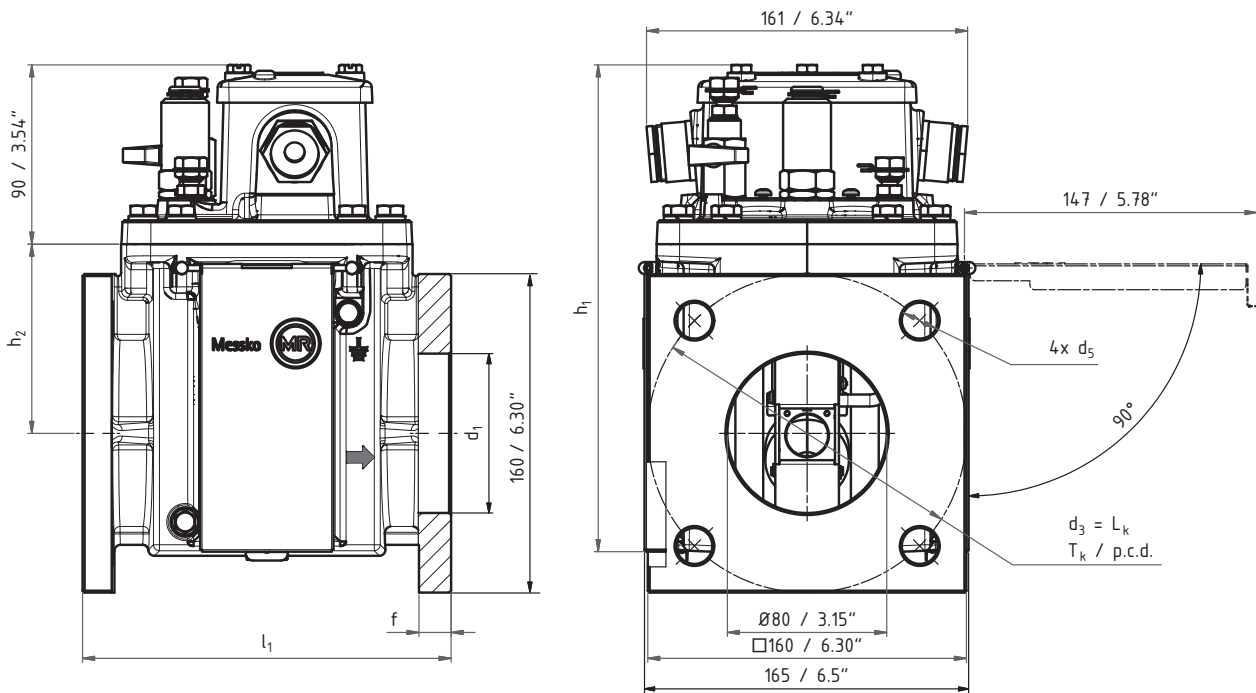


For dimensions refer to dimension table page 2

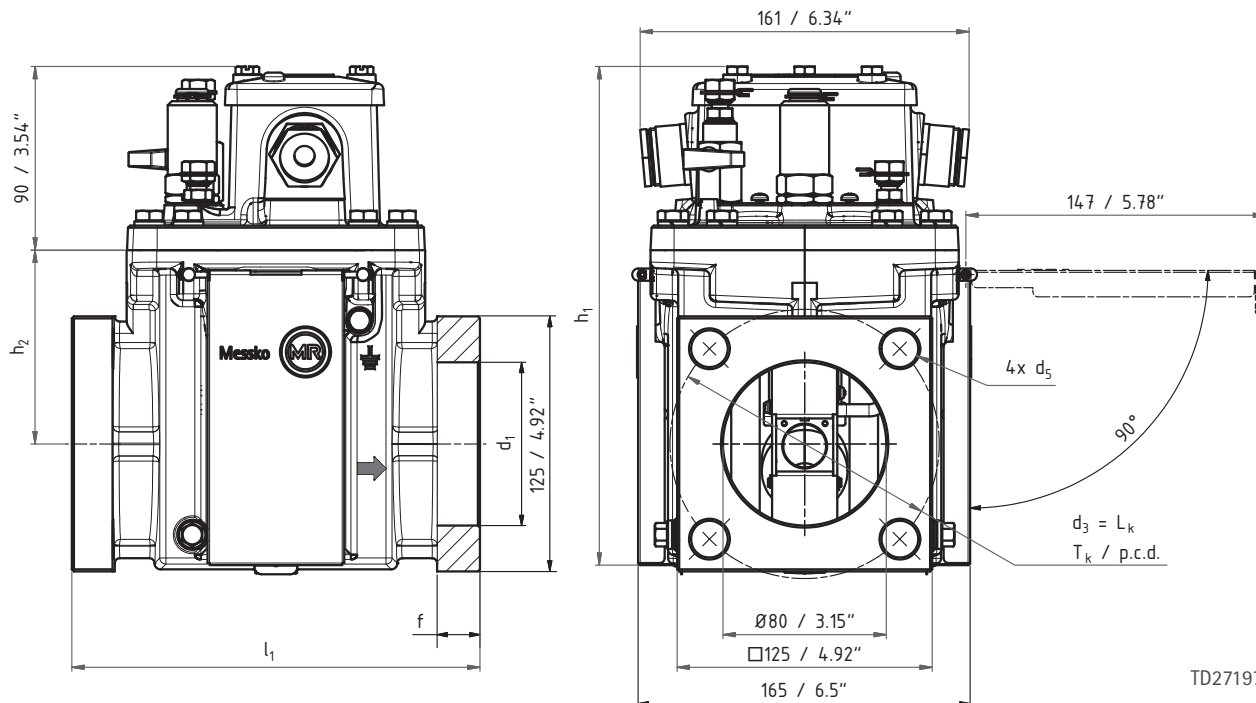
# MESSKO® MSafe® – BUCHHOLZ RELAY DIMENSIONS DEVICES WITH SQUARE FLANGE.

Dimension table devices with square flange							
Type	d1	d3 = p.c.d.	Ø d5	f	l1	h1	h2
MBR80-CH	80/3.15"	160/6.30"	4 x 18/0.71"	16/0.63"	185/7.28"	244/9.61"	95/3.74"
MBR80-QU	80/3.15"	132/5.20"	4 x 18/0.71"	21/0.83"	200/7.87"	244/9.61"	95/3.74"

## MESSKO® MSafe® – Buchholz relay MBR80-CH (square flange)

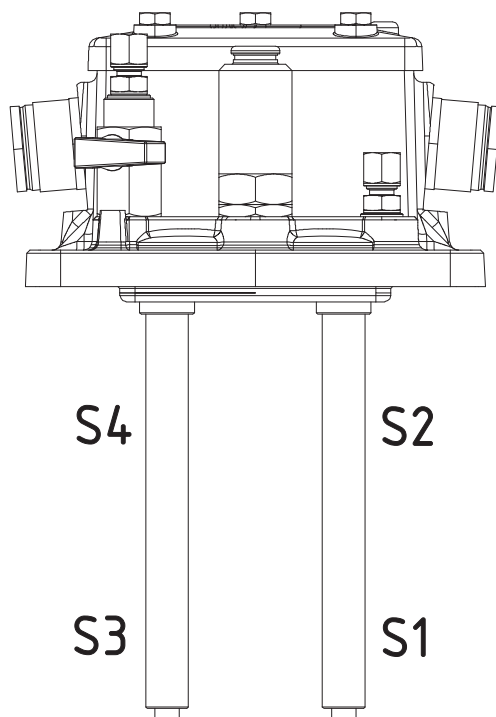


## MESSKO® MSafe® – Buchholz relay MBR80-QU (square flange)

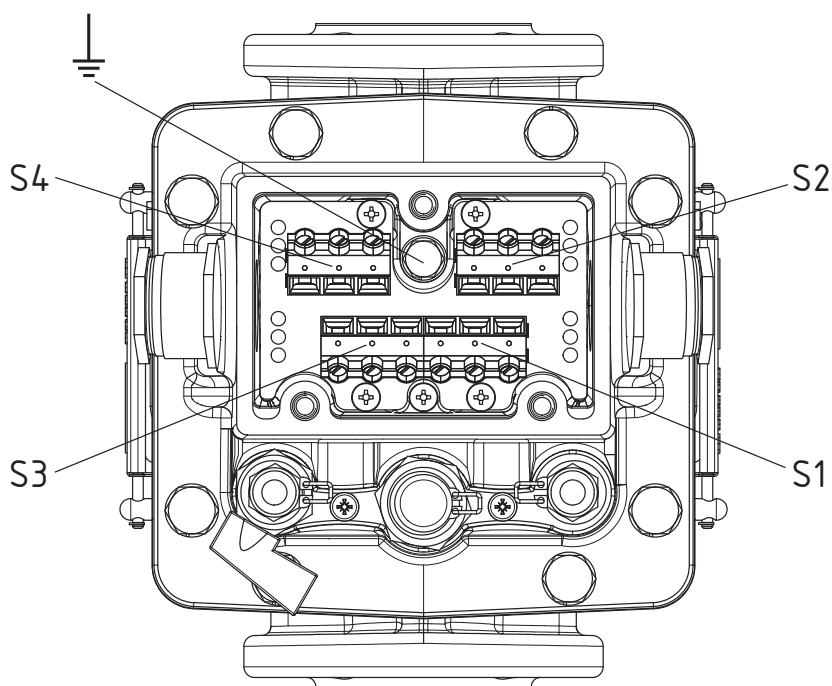


# MESSKO® MSafe® – BUCHHOLZ RELAY SWITCHING CONTACTS AND ELECTRICAL CONNECTION

## MESSKO® MSafe® – Position of switching contacts



## MESSKO® MSafe® – Electrical connection



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THE POWER BEHIND POWER.

