HYDAC INTERNATIONAL

Multi-Function Ergonomics, Ergonomics and Knobs
Handles

Introduction

The materials are chosen to be suitable for either internal or external use and are resistant to ultra-violet effects. They are also suitable for a wide range of other environmental conditions.

The standard straight ergonomic handle is available with a range of switches and push buttons, while the MFE handle range is available with an extensive range of switches and push buttons to suit different operating and environmental conditions. The MFE handle range can be configured to suit either left hand or right hand operation.

Different circuit arrangements can be accommodated within the handle and the wiring can be built into connectors to customer specifications.

Benefits

- Range of knobs for individual lever control
- Range of straight levers, with and without switches, for dual axis controls
- Extensive range of stylish multi functional lever options
- Extensive range of electrical switch and button options
- Adaptable to both Hydac and other manufacturers equipment
- Circuits and connectors to customer requirements
- Switch options allow left hand or right hand operation
- Tolerant to many environmental conditions
- High durability, low maintenance

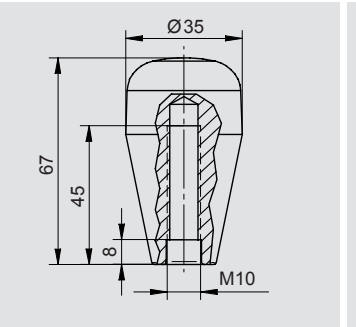
K Series knobs

KB = Duroplast knob
KC = Technopolymer knob
KD = Duroplast knob with switch
KK = Knob with rubber cap
KL = Knob with len
KP = Spherical knob
KW = Knob with switch

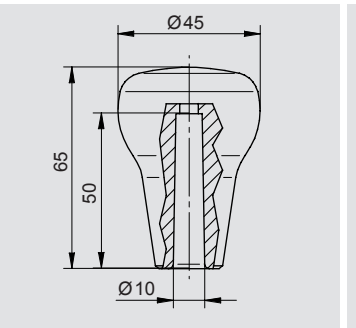
S Series ergonomic

SA = Handle without electric switch
SD = Handle with electric switch
SS = Handle with electric switch to close and safety button
SX = Handle with electric switch to close
SY = Handle with electric switch dual rocker type

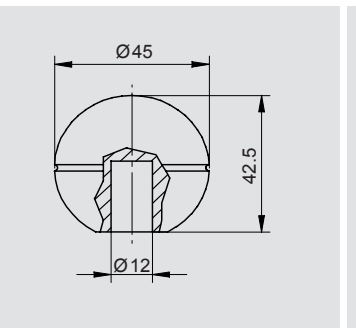
KB – Duroplast knob

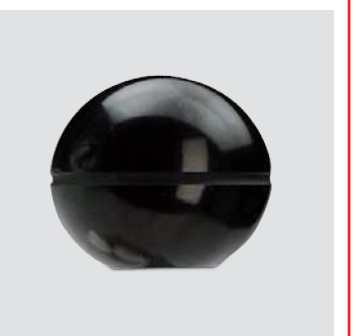


KC – Technopolymer knob

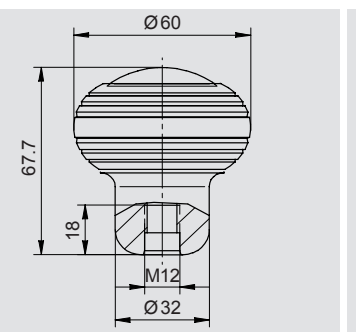


KP – Spherical knob

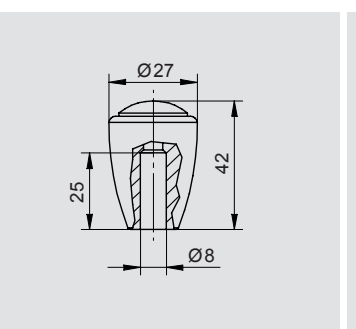




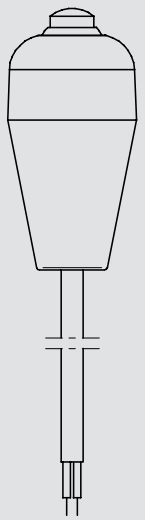
KK – Knob with rubber cap

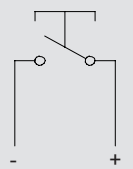


KL – Knob with len



KD – Duroplast knob with switch



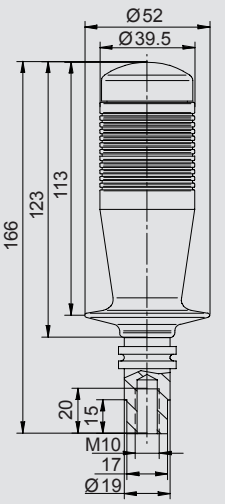


Wiring diagram

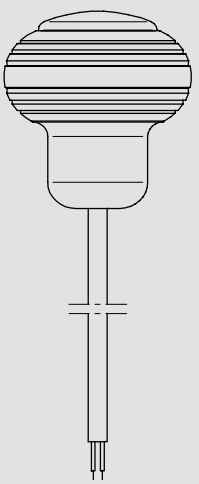
Protection:	IP64
Rating current:	1 A
Input voltage:	30 V DC
Electrical life:	10^6 cycles

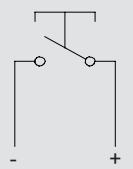
For installation dimension see knob KB

SA – Without switch



KW – Duroplast knob with switch



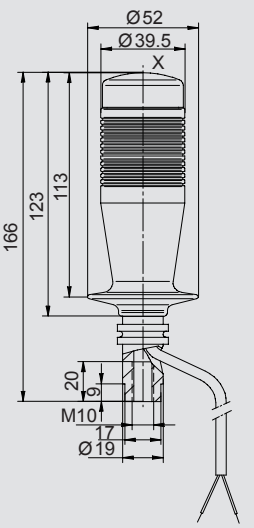


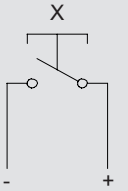
Wiring diagram

Protection:	IP54
Rating current:	5 A
Input voltage:	250 V AC
Electrical life:	10^5 cycles

For installation dimension see knob KK

SX – With one switch on the top

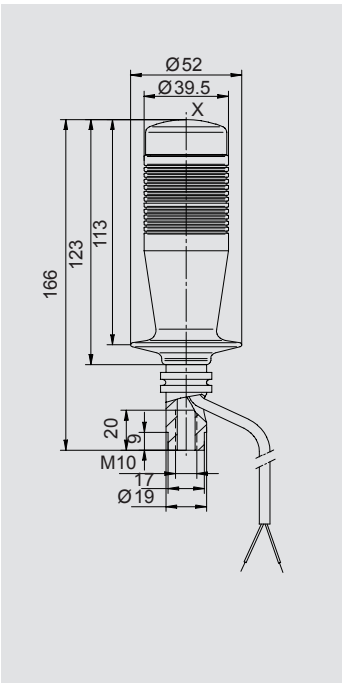




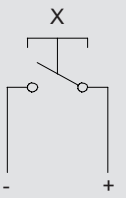
Wiring diagram

Protection:	IP54
Rating current:	16 A
Input voltage:	250 V DC
Electrical life:	10^6 cycles

SS – With one switch on the top with safety cage

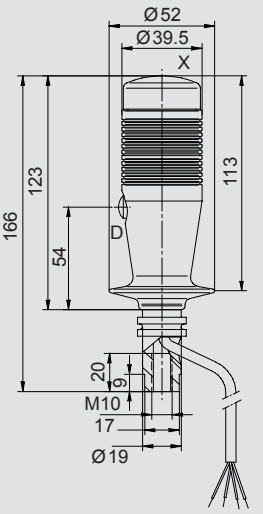


Protection:	IP54
Rating current:	16 A
Input voltage:	250 V DC
Electrical life:	10^6 cycles

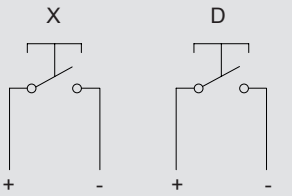


Wiring diagram

SD – With one switch on the top and one switch on the side

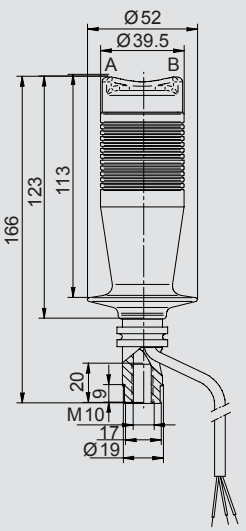


Protection:	IP54
Rating current:	16 A on X, 1 A on D
Input voltage:	250 V DC on X, 30 V DC on D
Electrical life:	10^6 cycles

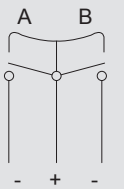


Wiring diagram

SY – With one 3 position rocker switch on the top spring centered



Protection:	IP54
Rating current:	16 A
Input voltage:	250 V DC
Electrical life:	10^6 cycles



Wiring diagram

Model code

MFE X XXXX XX X X X X XXX

MFE = Multifunction-Ergonomic

Push button/switch option

A = Plastic push button
with microswitches rated 3 A at 30 V DC

B = Sealed push button
with microswitches rated 3 A at 30 V DC

C = Insulated push button
with microswitches rated 0.4 A at 30 V DC

E = Serviceable sealed push button
with microswitches rated 3 A at 30 V DC

Push button/switch in position 1 ÷ 6

Insert ID letter for each button/switchchosen
on the following list and in progressive sequence
from position 1 up to position 6:
Note: Type C not available in pos. 1 and 4

X = no button switch
B = blue
G = green
R = red
Y = yellow
W = white (available only for type C and E)
L = signalling led

Push button/switch in position 8 ÷ 17

For each push button/switch, insert ID position numbers
and colours (see 1 ÷ 6 position) and omit ones
that are not required (i.e. 8R10G = red push button/switch
in position 8 and green push button/switch in position 10)
Note: push button/switch in pos.13-14-15 are available
only type C push button type A and B
are not available in pos. 8

Safety trigger in position 7

X = no safety trigger
T = with standard safety trigger
TCAP = with capacitive safety trigger

Wiring termination

0 = flying leads
2 = with connector (maker and model number
to be specified on order)

Gaiter collar

0 = basic version without provision for protection boot
R = with provision for round boot
S = with provision for square boot

Mounting adapter

0 = standard straight M10x1.5
1 = tilted 15° forward
2 = tilted 15° right (LH handle)
3 = tilted 15° left (RH handle)
4 = combined tilted 15° forward and 10° right (LH handle)
5 = combined tilted 15° forward and 10° left (RH handle)
6 = with spherical joint, adjustable
from 0° up to 20° in any direction

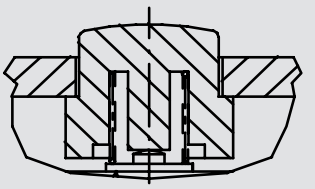
Rocker switch option

omit if not required

Pushbuttons type

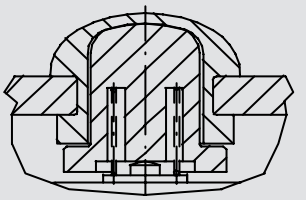
A – Plastic push button

Protection:	IP67
Rating current:	3 A
Input voltage range:	30 V DC
Electrical life:	10^6 cycles



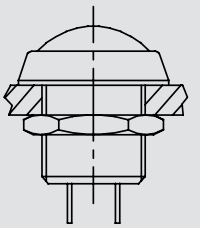
B – Sealed push button

Protection:	IP67
Rating current:	3 A
Input voltage range:	30 V DC
Electrical life:	10^6 cycles



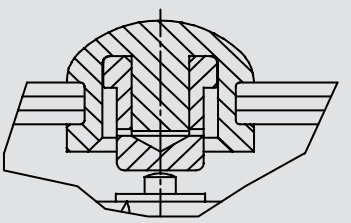
C – Isolated push button

Protection:	IP67
Rating current:	0.4 A
Input voltage range:	30 V DC
Electrical life:	10^6 cycles



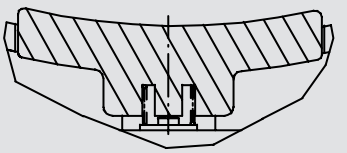
E – Sealed serviceable push button

Protection:	IP67
Rating current:	3 A
Input voltage range:	30 V DC
Electrical life:	10^6 cycles



T – Safety trigger

Protection:	IP67
Rating current:	3 A
Input voltage range:	30 V DC
Electrical life:	10^6 cycles



TCAP – Capacitive safety trigger

Protection:	IP54
Rating current:	2.6 A
Input voltage range:	10 - 30 V DC
Electrical life:	3 x 10^6 cycles
EMC tested	

Rocker switch options

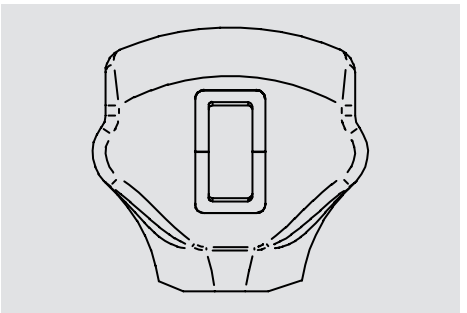
S Type – Waterproof rocker switch

Protection:	IP68
Rating current:	10 A (28 V DC)
Life:	5 x 10^4 cycles

R Type – Long life rocker switch

Protection:	IP67
Rating current:	0.25 A (28 V DC)
Life:	10^6 cycles

Vertical mounted



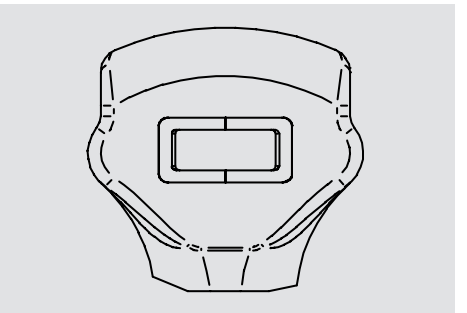
S1B: IP68 3 Position momentary rocker switch

S2B: IP68 3 position latched rocker switch

R1B: Long life position momentary rocker switch

R2B: long life 3 position latched rocker switch

Horizontal mounted



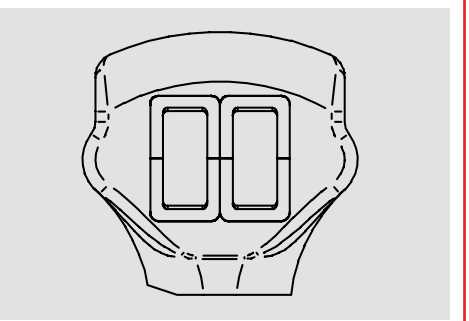
S1A: IP68 3 Position momentary rocker switch

S2A: IP68 3 position latched rocker switch

R1A: Long life position momentary rocker switch

R2A: long life 3 position latched rocker switch

Two vertical mounted



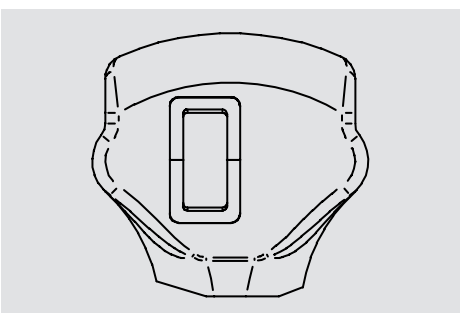
S4A: IP68 3 Position momentary rocker switch

S4B: IP68 3 position latched rocker switch

R4A: Long life position momentary rocker switch

R4B: Long life 3 position latched rocker switch

Vertical mounted left offset



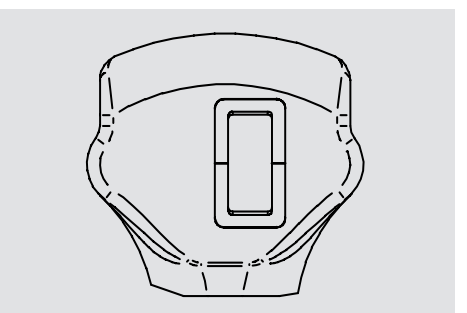
S1C: IP68 3 Position momentary rocker switch

S2C: IP68 3 position latched rocker switch

R1C: Long life position momentary rocker switch

R2C: Long life 3 position latched rocker switch

Vertical mounted right offset



S1D: IP68 3 Position momentary rocker switch

S2D: IP68 3 position latched rocker switch

R1D: Long life position momentary rocker switch

R2D: Long life 3 position latched rocker switch

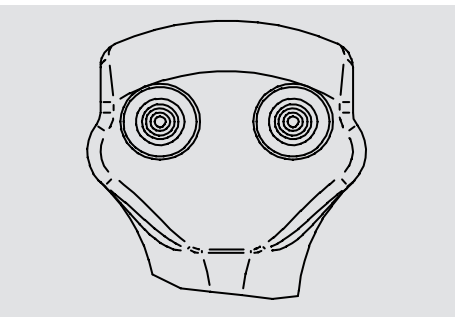
Other switch options

D – 4 Way On-Off Switch

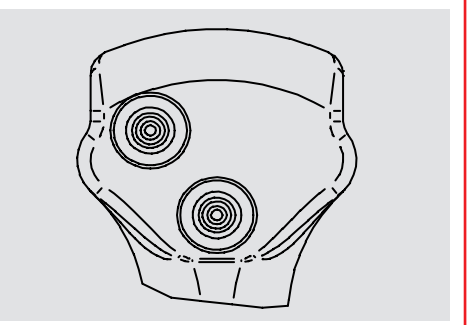
Protection:	IP68
Rating current:	1 A (28 V DC)
Electrical life:	10^5 cycles

DLDRDB – 3 switches

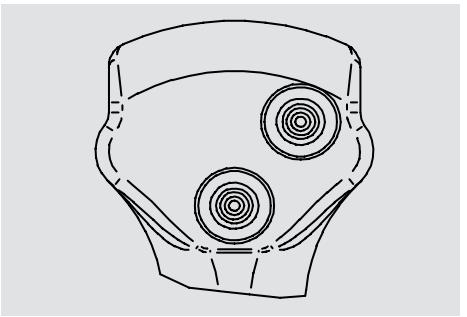
DLDR – 2 switches top



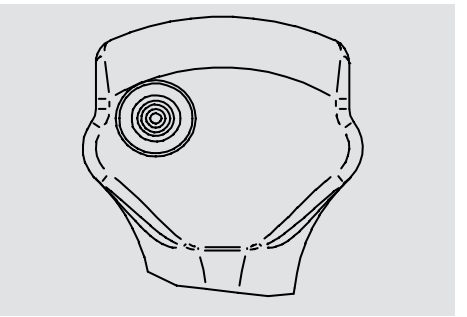
DLDB – 2 switches left



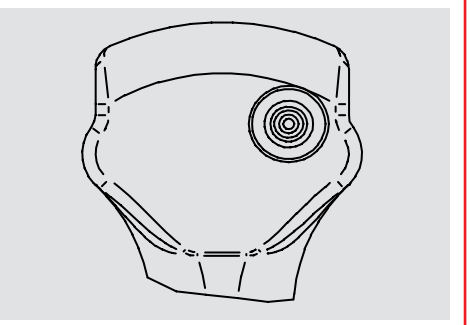
DRDB – 2 switches right



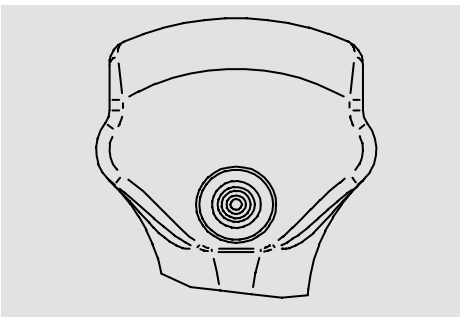
DL – 1 switch left



DR – 1 switch right

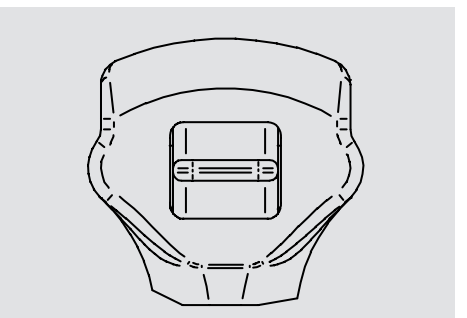


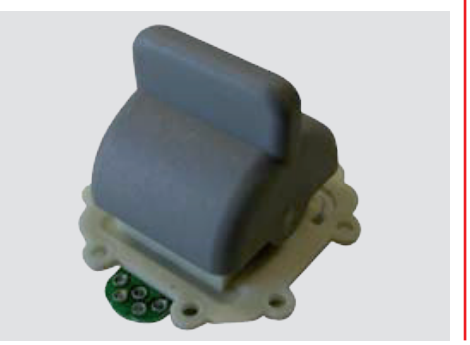
DB – 1 switch center



R3 – Proportional analogue rocker

Protection:	IP65
Rating current:	0.01 A
Input voltage range:	8 - 30 V DC
Output signal:	0.5 - 4.5 V DC with 2.5 V in neutral position
Electrical life:	2 x 10^6 cycles



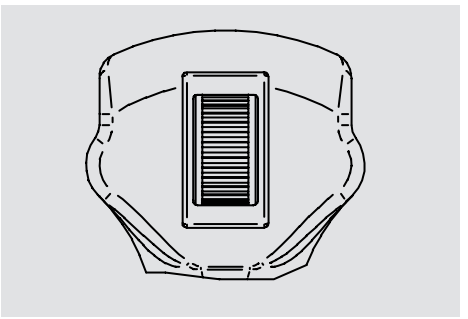


Other switch options

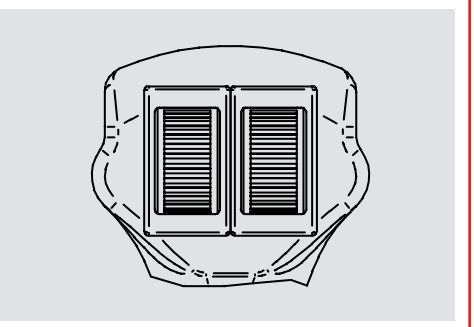
RP – Proportional roller

Protection:	IP68
Rating current:	0.028 A (5 V DC max)
Output signal:	0.5 - 4.5 V DC with 2.5 V in neutral position
Electrical life:	2 x 10^6 cycles

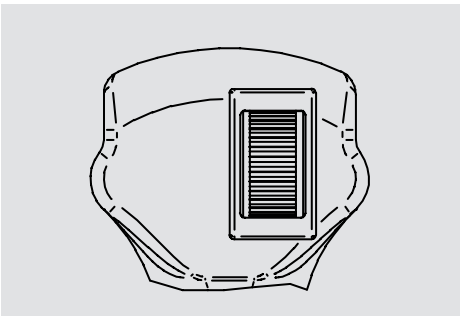
RP – One centered



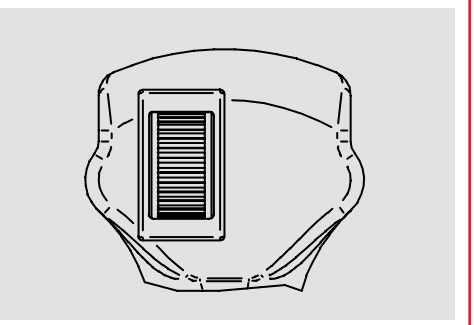
2RP – Two centered



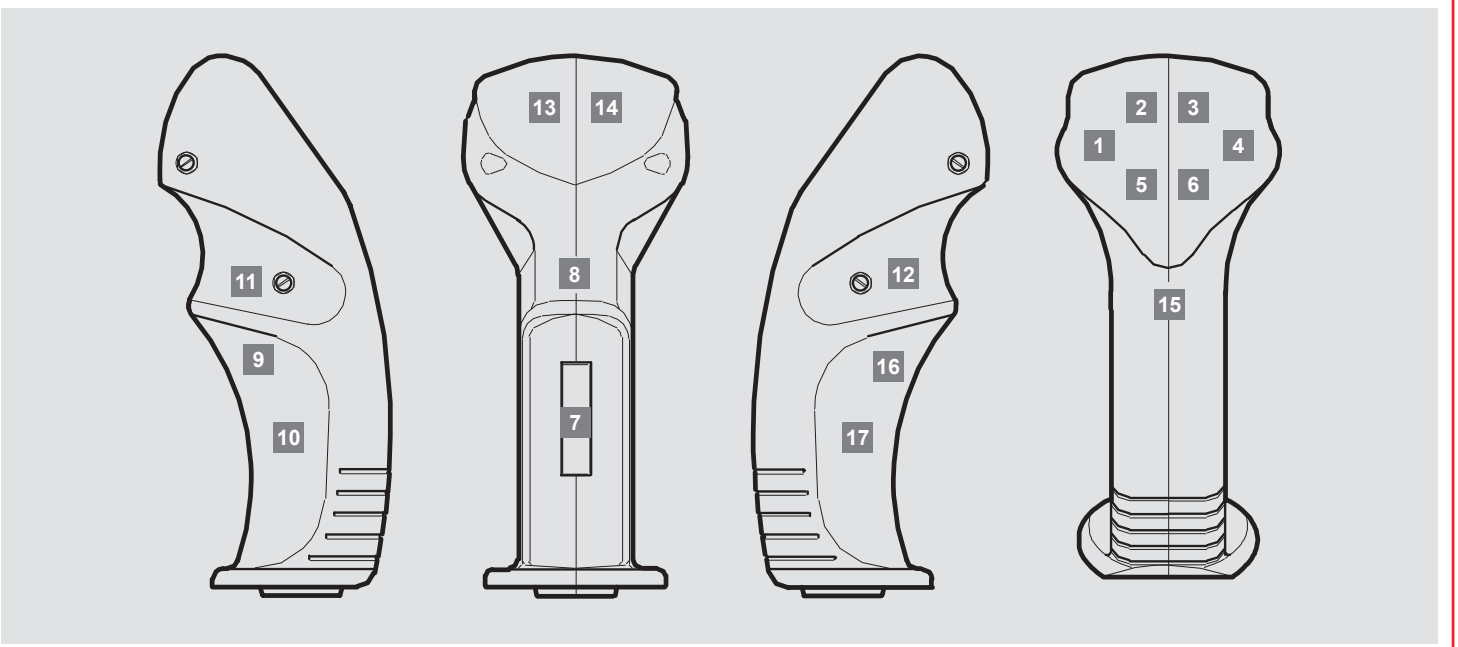
RPD – One right offsey



RPS – One left offset



Compatibility table



		Push Buttons																	On-Off Rocker Switch Push Buttons					4 Way Switch Positions							Proportional Rocker				
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	S(R)1B S(R)2B	S(R)1A S(R)2A	S(R)4A S(R)4B	S(R)1C S(R)2C	S(R)1D S(R)2D	DLDRDB	DLDR	DLDB	DRDB	DL	DR	DB	R3	RP	2RP	RPS	RPD
Push Buttons	1																				*													
	2																																	
	3																																	
	4																				*													
	5																																	
	6																																	
	7																																	
	8																																	
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	10																																	
	11																																	
	12																																	
	13																																	
	14																																	
	15																																	
	16																																	
	17																																	
On-Off Rocker Switch Push Buttons	S(R)1B S(R)2B																																	
	S(R)1A S(R)2A																																	
	S(R)4A S(R)4B	*			*																													
	S(R)1C S(R)2C																																	
	S(R)1D S(R)2D																																	
4 Way Switch Positions	DLDRDB																																	
	DLDR																																	
	DLDB																																	
	DRDB																																	
	DL																																	
	DR																																	
	DB																																	
Proportional Rocker	R3	*																																
	RP																																	
	2RP																																	
	RPS																																	
	RPD																																	

Key

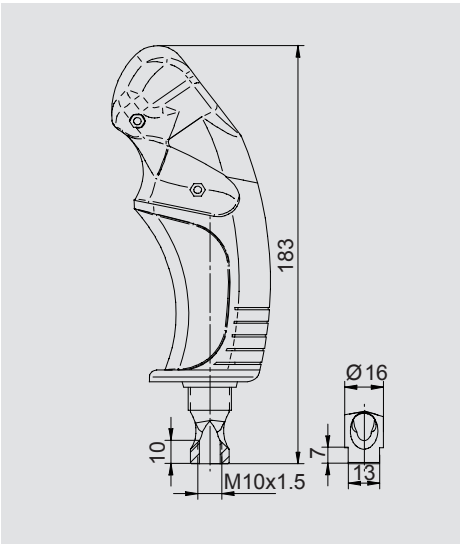
= available combination

= not available

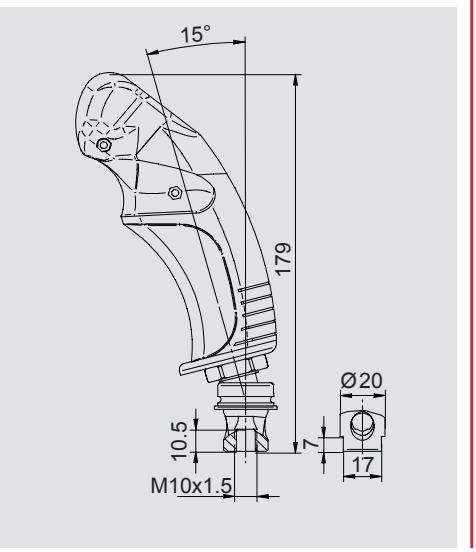
* Available only Type A

Mounting adapters

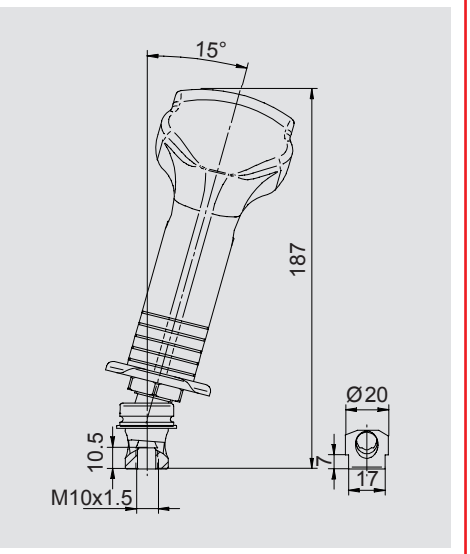
0 – Standard straight



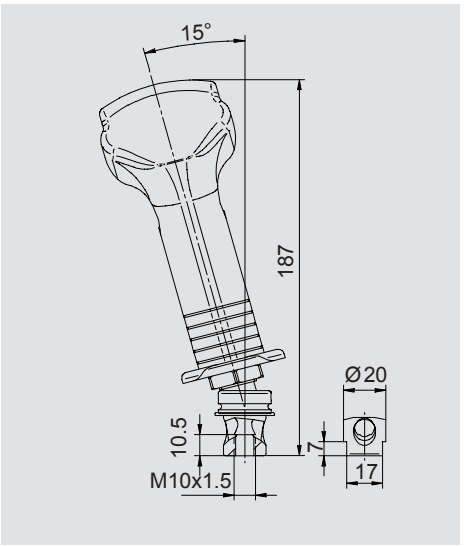
1 – Tilted 15° forward



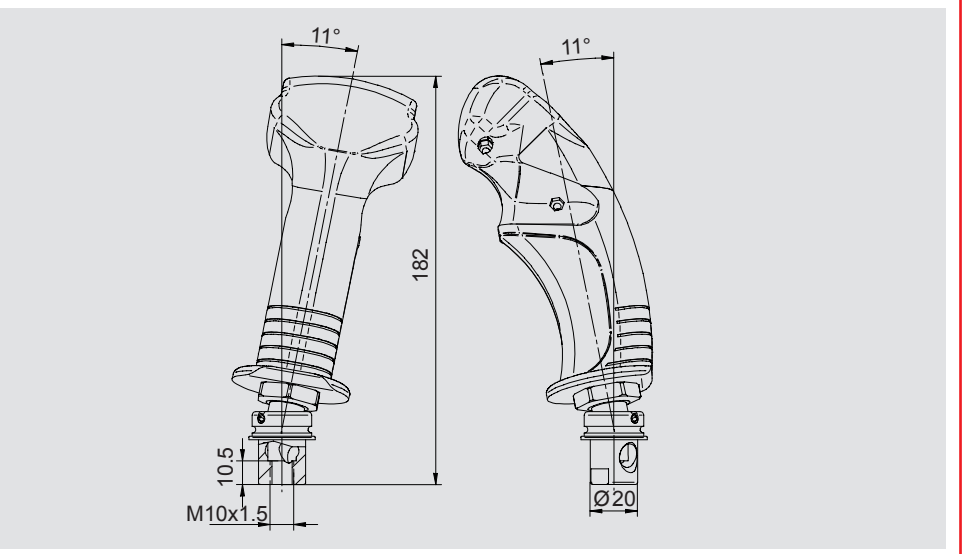
2 – Tilted 15° right hand



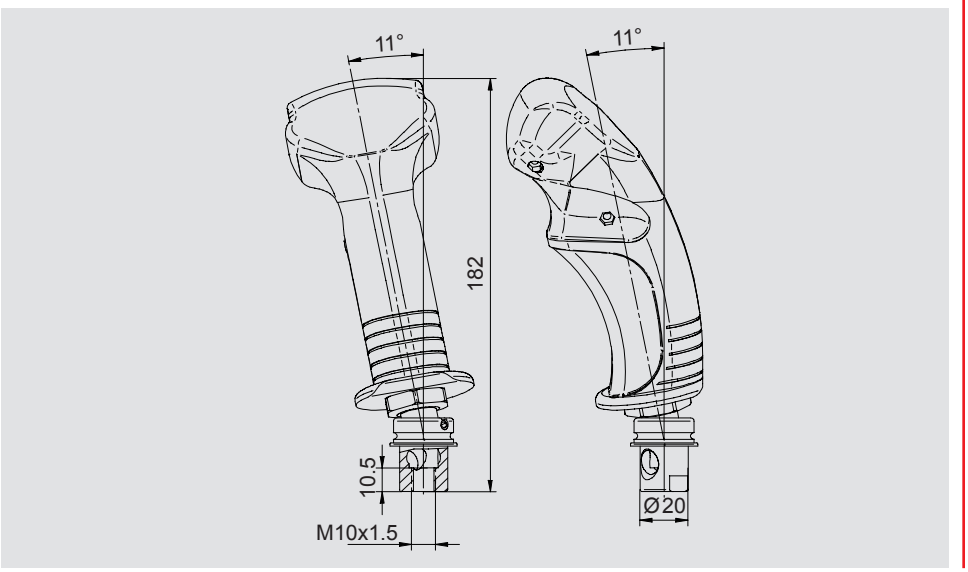
3 – Tilted 15° left hand



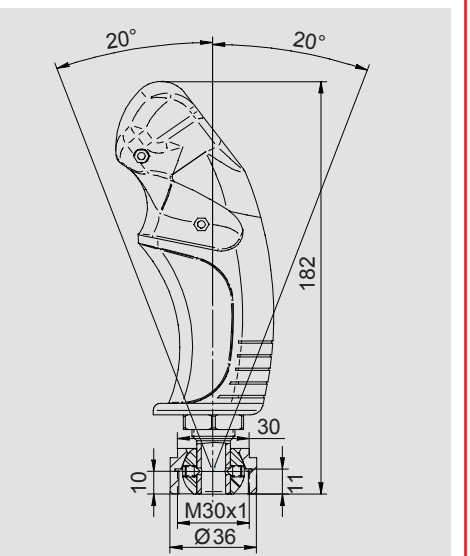
4 – Combined tilting right hand



5 – Combined tilting left hand

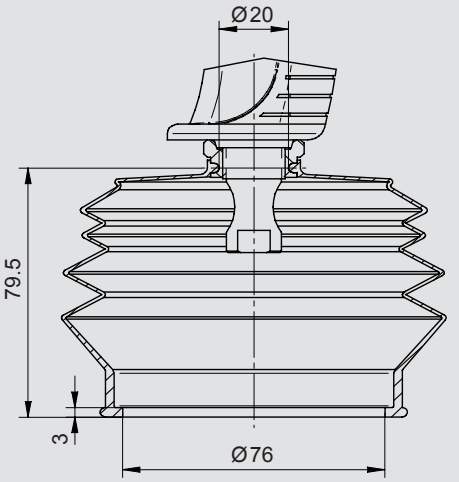


6 – With ball joint

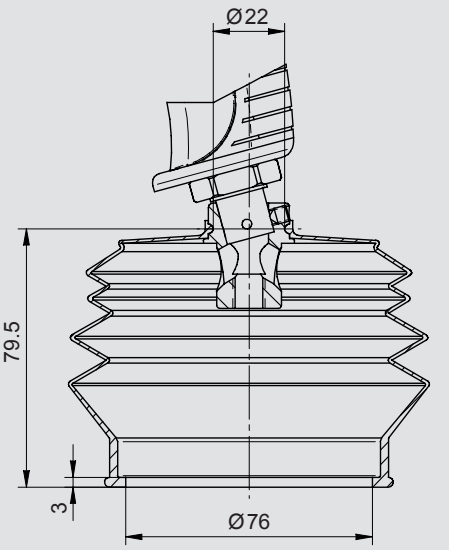


Protective boots

R – Round protection boot

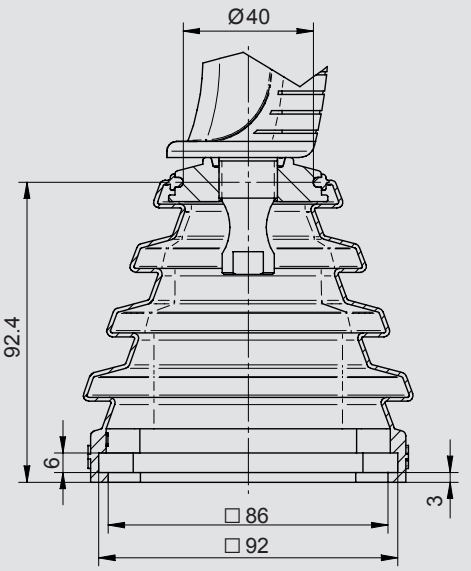


Gaiter collar for standard straight mounting adaptor

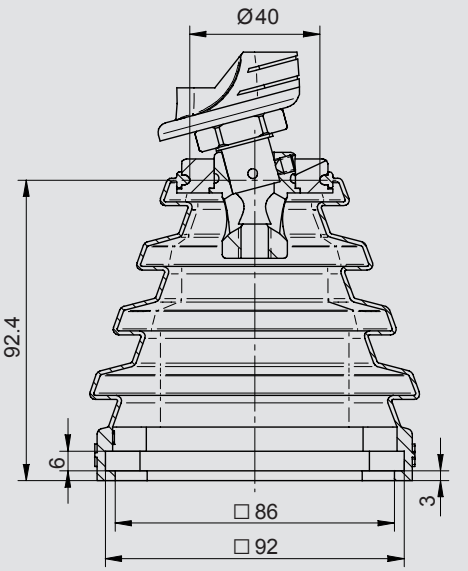


Gaiter collar for tilted mounting adaptor

S – Square protection boot



Gaiter collar for standard straight mounting adaptor



Gaiter collar for tilted mounting adaptor

Note

The information in this brochure relates to the operating conditions and applications described.

For applications or operating conditions not described, please contact the relevant technical department.

Subject to technical modifications.

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