



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

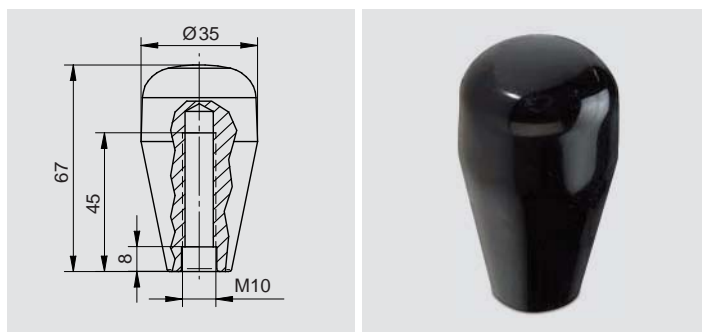
K Series knobs

- 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

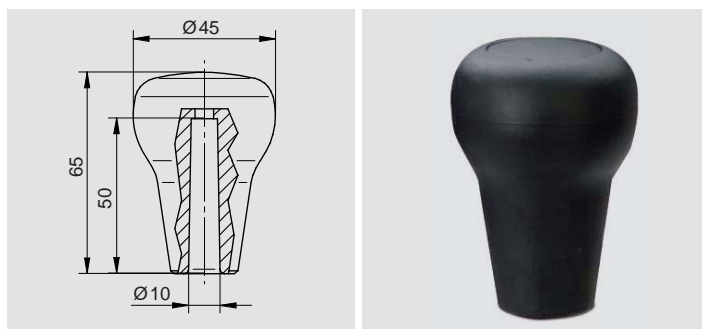
S Series ergonomic

- 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

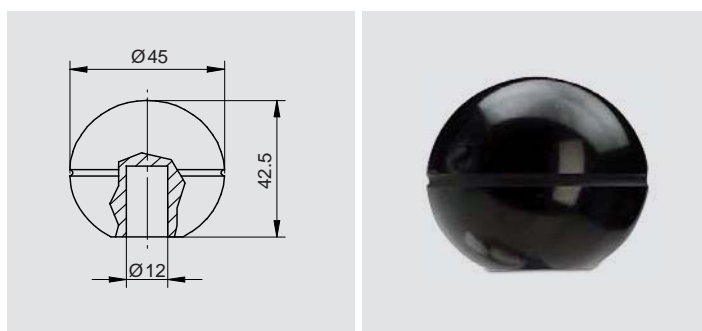
KB – Duroplast knob



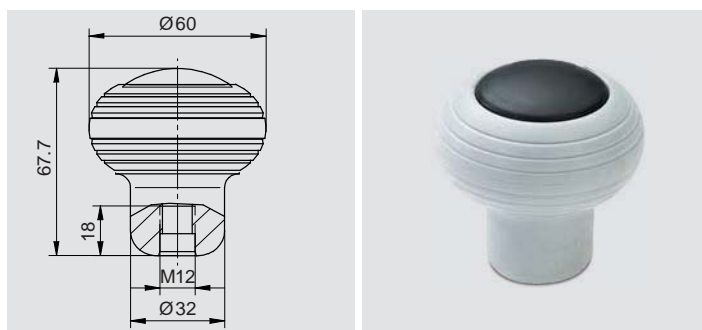
KC – Technopolymer knob



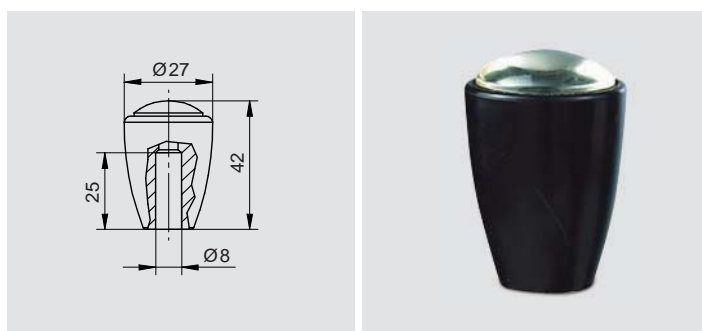
KP – Spherical knob



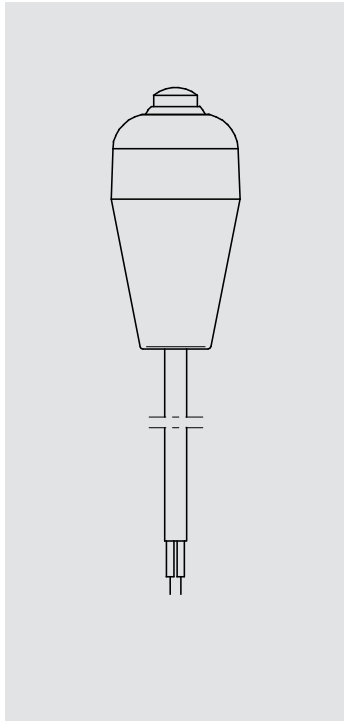
KK – Knob with rubber cap



KL – Knob with len

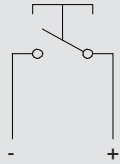


KD – Duroplast knob with switch



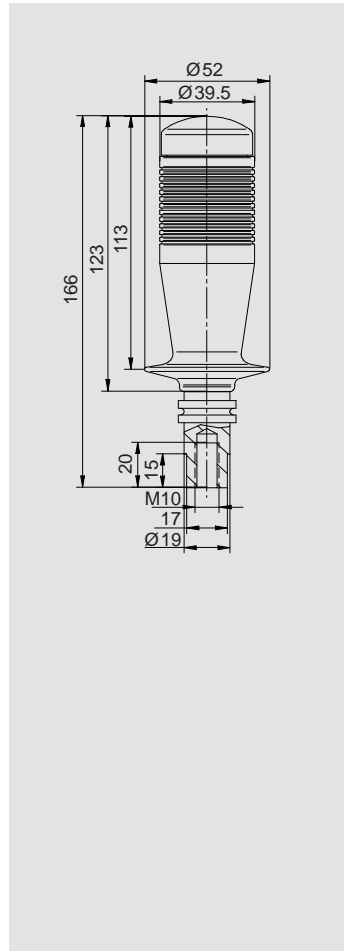
Protection:	IP64
Rating current:	1 A
Input voltage:	30 V DC
Electrical life:	10 ⁶ cycles

For installation dimension see knob KB

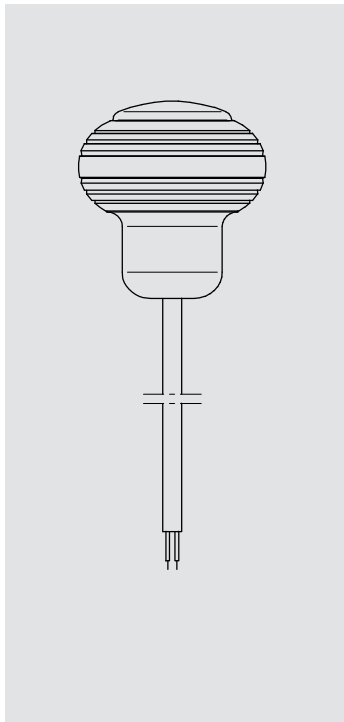


Wiring diagram

SA – Without switch

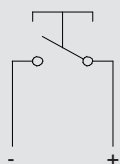


KW – Duroplast knob with switch



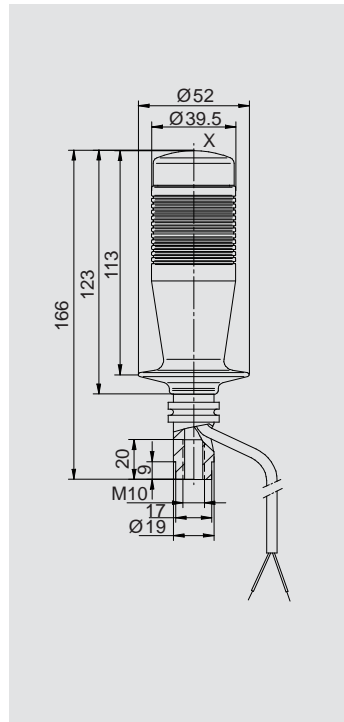
Protection:	IP54
Rating current:	5 A
Input voltage:	250 V AC
Electrical life:	10 ⁵ cycles

For installation dimension see knob KK



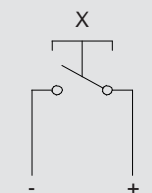
Wiring diagram

SX – With one switch on the top



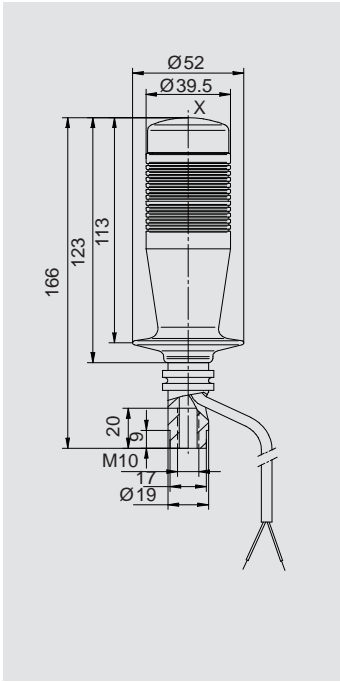
Protection:	IP54
Rating current:	16 A
Input voltage:	250 V DC
Electrical life:	10 ⁶ cycles

For installation dimension see knob KK

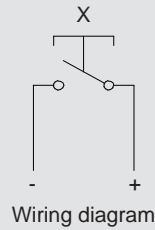


Wiring diagram

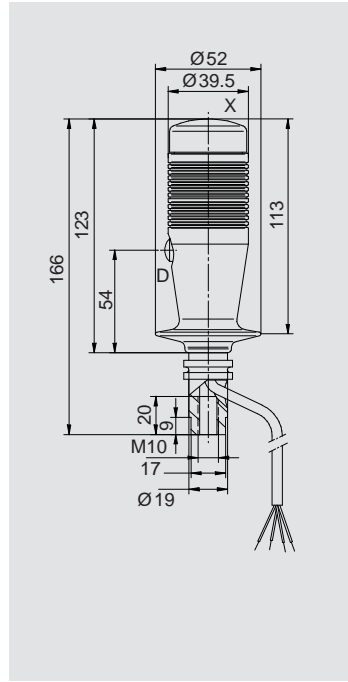
SS – With one switch on the top with safety cage



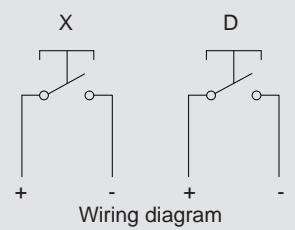
Protection:	IP54
Rating current:	16 A
Input voltage:	250 V DC
Electrical life:	10 ⁶ cycles



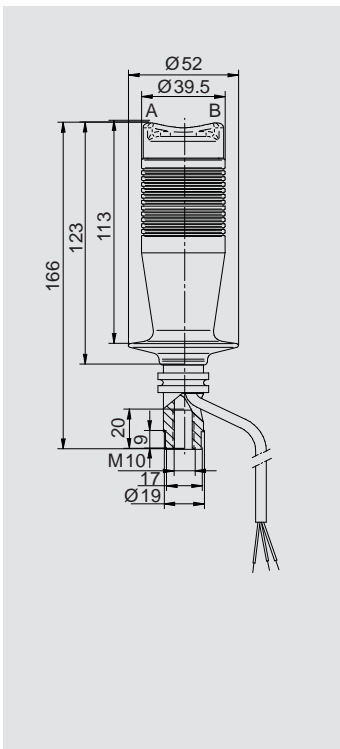
SD – With one switch on the top and one switch on the side



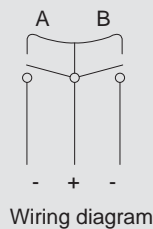
Protection:	IP54
Rating current:	16 A on X, 1 A on D
Input voltage:	250 V DC on X, 30 V DC on D
Electrical life:	10 ⁶ cycles



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



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/switch chosen 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

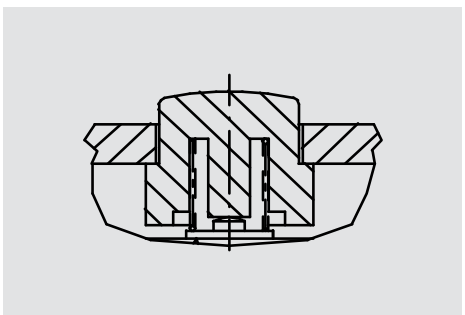
Rocker switch option

omit if not required

Pushbuttons type

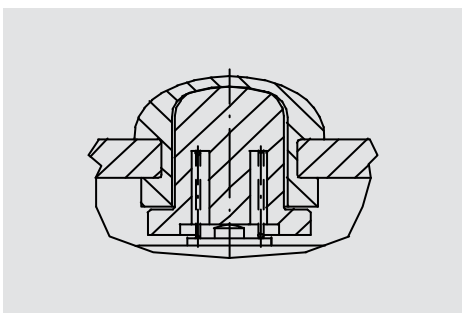
A – Plastic push button

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



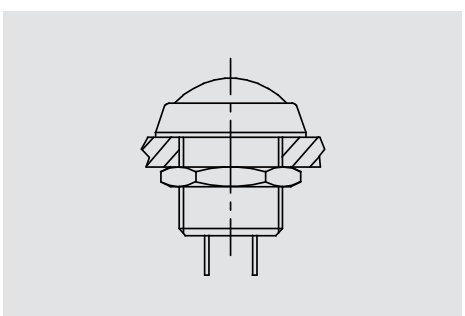
B – Sealed push button

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



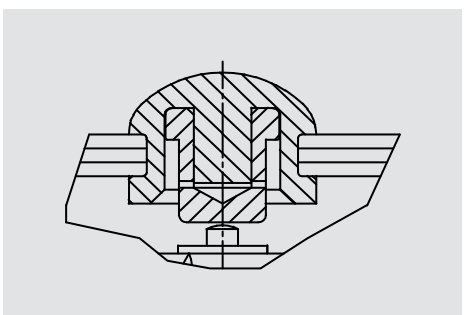
C – Isolated push button

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



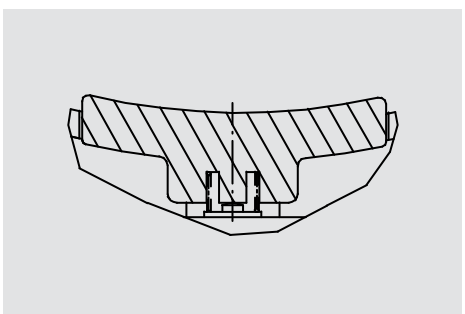
E – Sealed serviceable push button

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



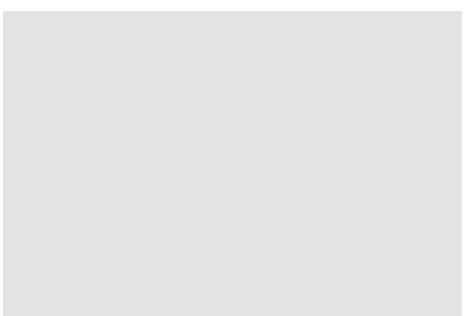
T – Safety trigger

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

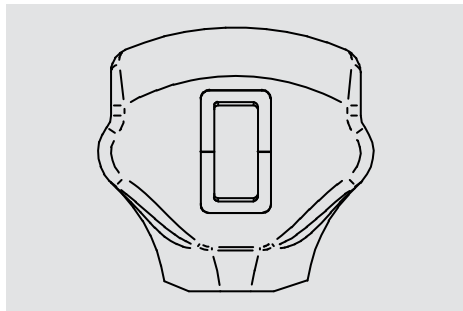


R Type – Long life rocker switch

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

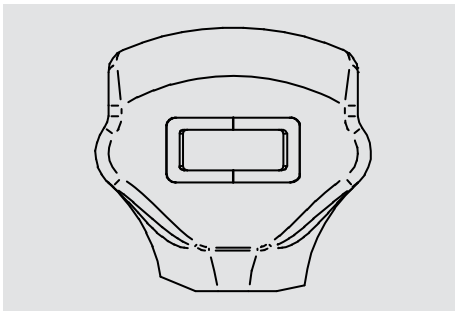


Vertical mounted



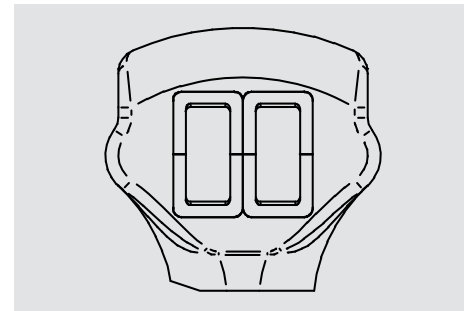
- S1B:** IP68 3 Position momentary rocker switch
- S2B:** IP68 3 position latched rocker switch
- R1B:** Long life position momentary rocker switch
- R2B:** long life 3 position latched rocker switch

Horizontal mounted



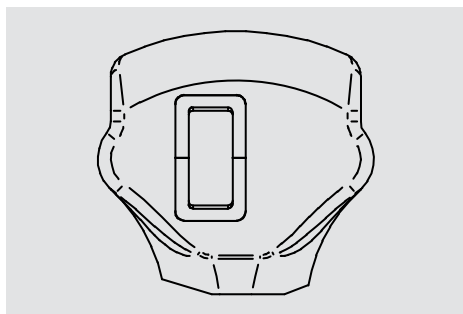
- S1A:** IP68 3 Position momentary rocker switch
- S2A:** IP68 3 position latched rocker switch
- R1A:** Long life position momentary rocker switch
- R2A:** long life 3 position latched rocker switch

Two vertical mounted



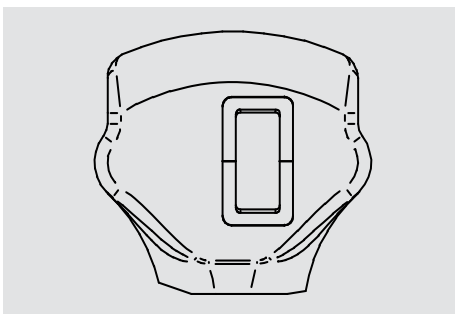
- S4A:** IP68 3 Position momentary rocker switch
- S4B:** IP68 3 position latched rocker switch
- R4A:** Long life position momentary rocker switch
- R4B:** Long life 3 position latched rocker switch

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

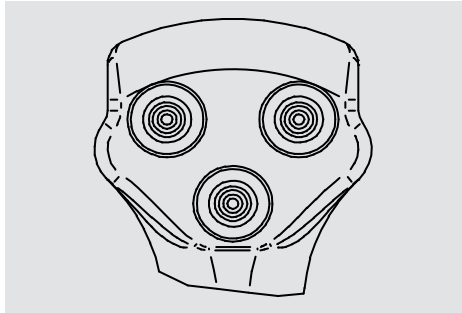
Other switch options

D – 4 Way On-Off Switch

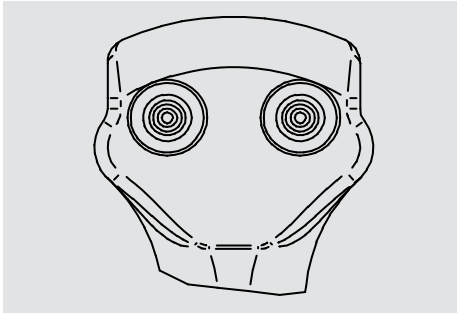
Protection:	IP68
Rating current:	1 A (28 V DC)
Electrical life:	10 ⁵ cycles



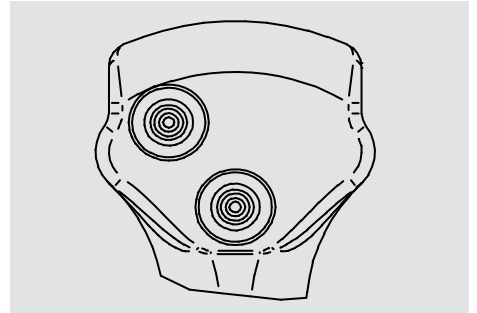
DLDRDB – 3 switches



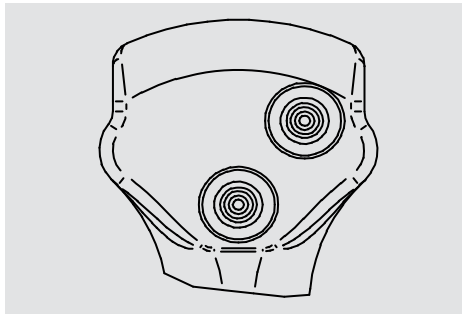
DLDR – 2 switches top



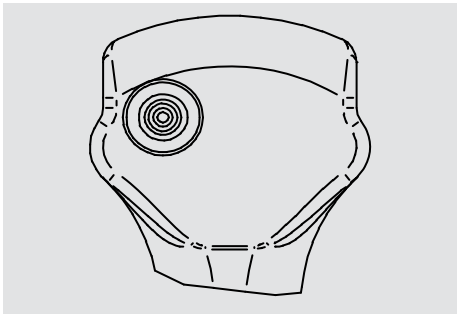
DLDB – 2 switches left



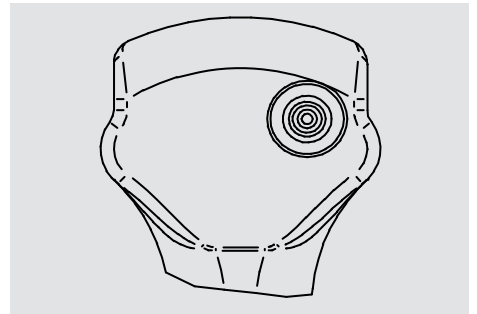
DRDB – 2 switches right



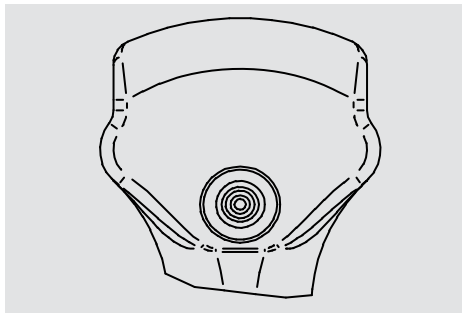
DL – 1 switch left



DR – 1 switch right

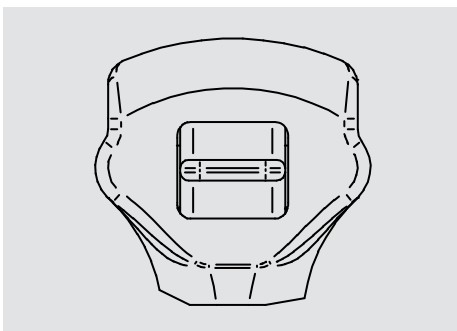


DB – 1 switch center



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



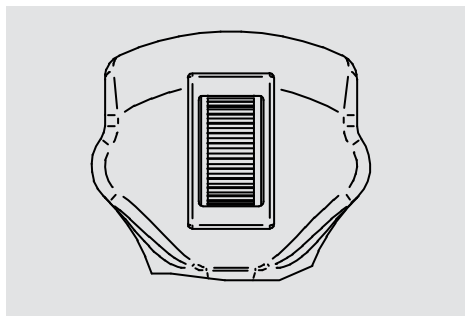
Other switch options

RP – Proportional roller

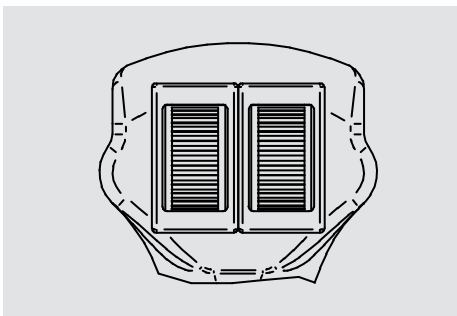
Protection:	IP68
Rating current:	0.028 A (5 V DC max)
Output signal:	0.5 - 4.5 V DC with 2.5 V in neutral position
Electrical life:	2 x 10 ⁶ cycles



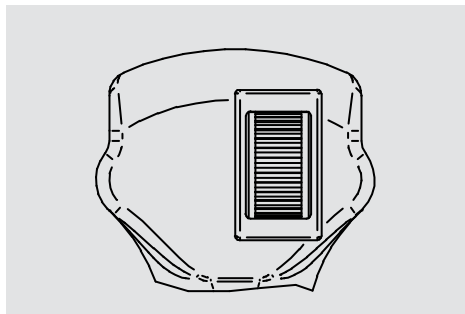
RP – One centered



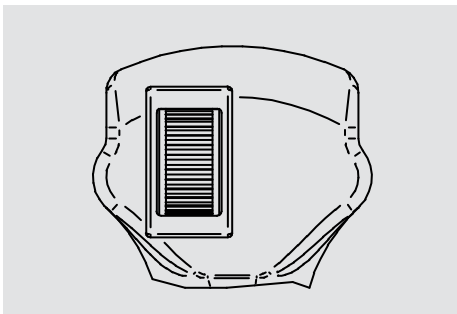
2RP – Two centered



RPD – One right offsey

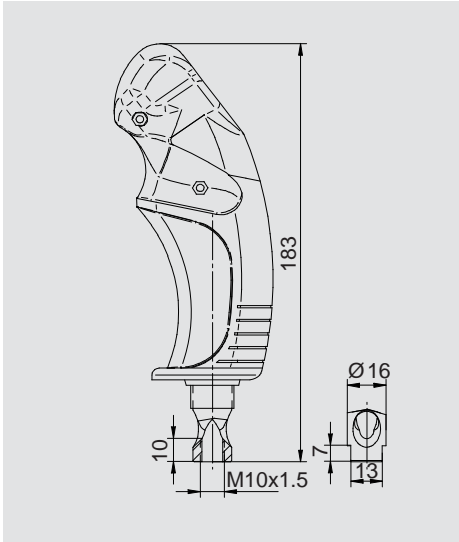


RPS – One left offset

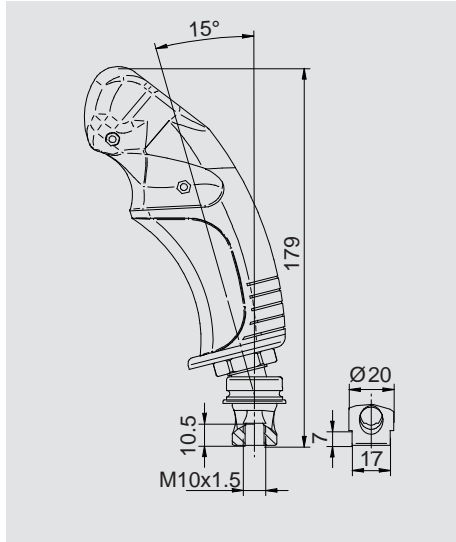


Mounting adapters

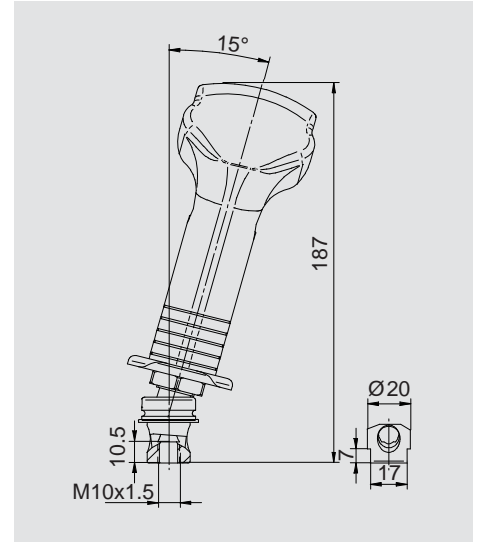
0 – Standard straight



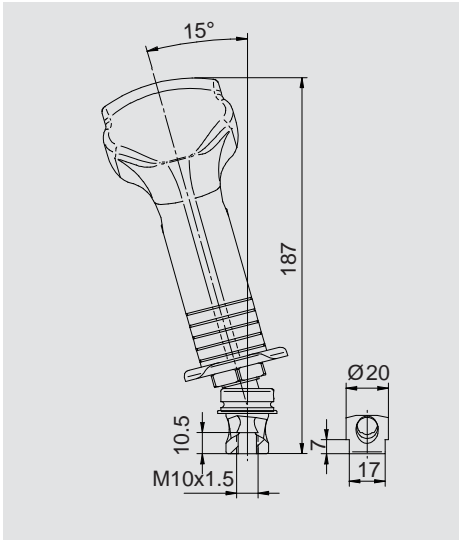
1 – Tilted 15° forward



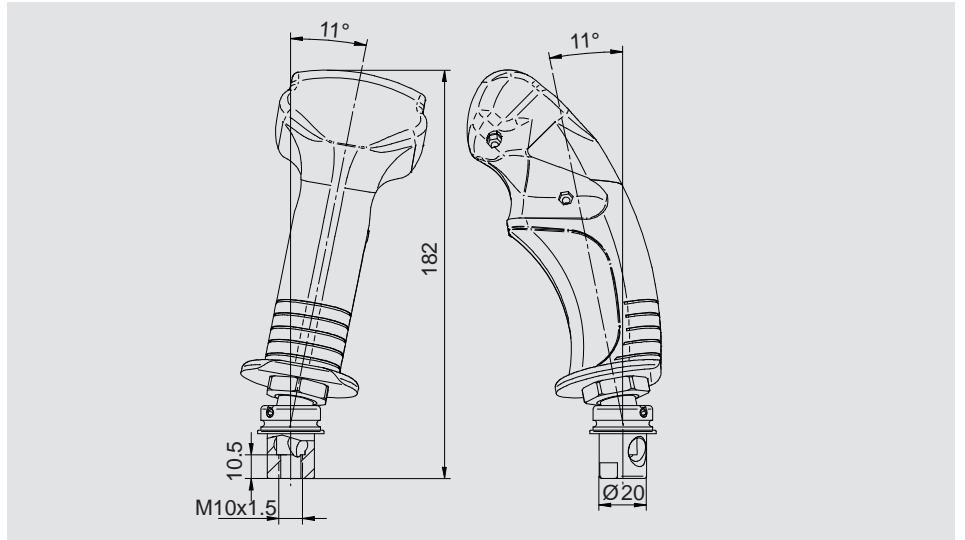
2 – Tilted 15° right hand



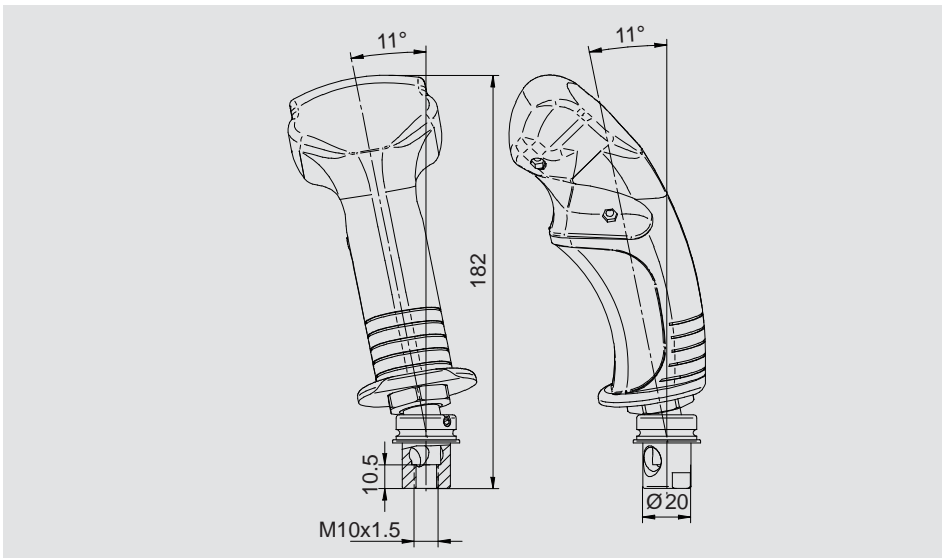
3 – Tilted 15° left hand



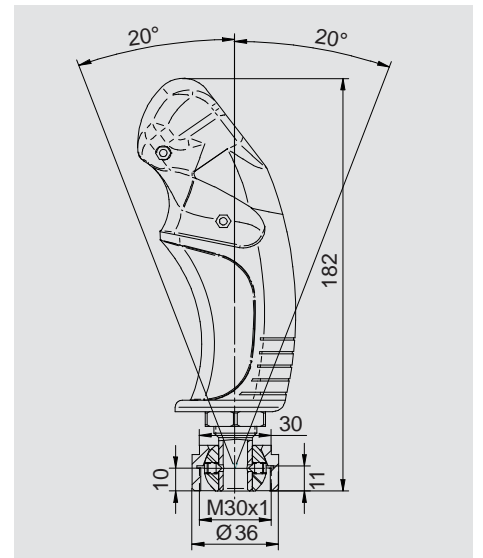
4 – Combined tilting right hand



5 – Combined tilting left hand

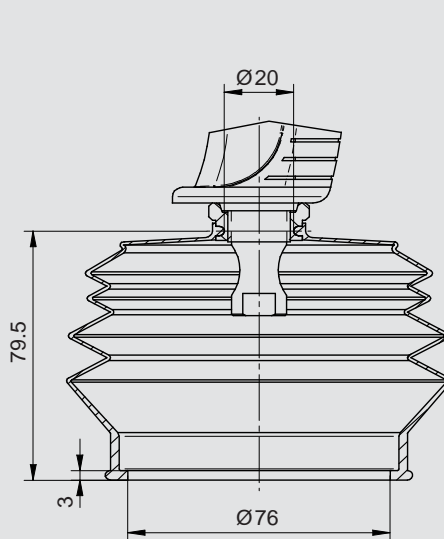


6 – With ball joint

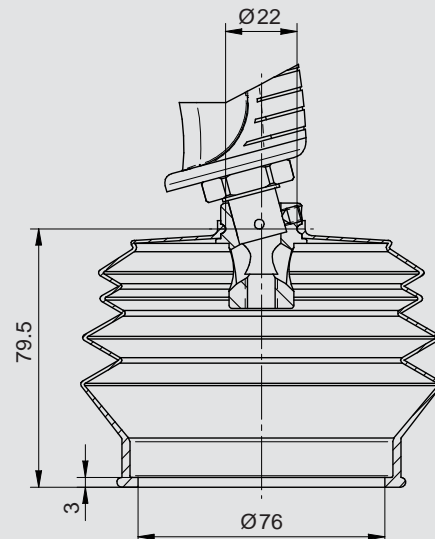


Protective boots

R – Round protection boot

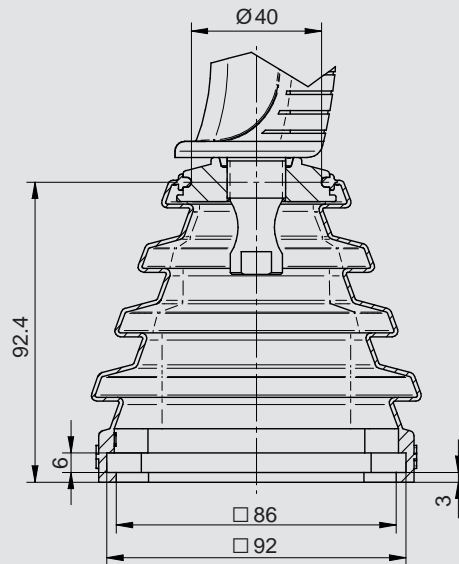


Gaiter collar for standard straight mounting adaptor

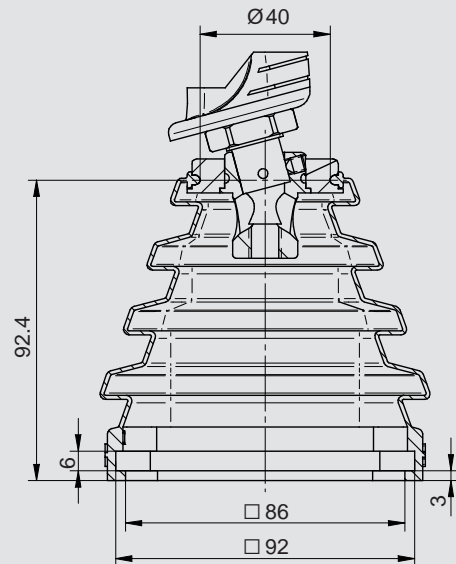


Gaiter collar for tilted mounting adaptor

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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