

HANDLES

RANGE



HANDLES

The Hydreco Hydraulics handles are available for fitting either to Hydreco Hydraulics pilot valves or other types of devices. The handles can also be used as stand alone device in many applications.

The selected materials suit both indoor or outdoor environments and are reliable, strong and suitable for heavy duty applications.

Wide range of knobs and straight lever are available with different options, integrating switches and push buttons. Ergonomical MFE, EXM, and MFE2 handles offer multifunction and bespoke solutions for the most demanding applications; they can be equipped with a wide range of controls: rocker switch, proportional roller, minijoystick, latched or momentary push buttons, toggle switch, four way switch etc.

The ergonomic handles are available for both left and right operation selecting the proper tilting option. MFE2 Handle is ready for standalone applications, integrating a specific electronic board. Different circuit arrangements can be accommodated within the handle and the wiring can be designed as per customer's specifications.

Our engineers can offer special support to meet customer's requirements.

BENEFITS

- Many configurations available for knobs and straight handles suitable for both single and dual axis control
- Extensive range of electrical switch and button options
- All handles suitable to both Hydreco Hydraulics and other manufacturers equipments
- Spare parts available for maintenance
- Configurable for right and left hand operation
- Suitable to many environmental conditions
- High durability, low maintenance
- Standard safety switch or capacitive safety function available also to match redundancy requirements and different output currents ratings

KNOB AND STRAIGHT - MODEL CODING

Hydreco Hydraulics reserves the right to update the information and data contained in this catalogue at any time without notice

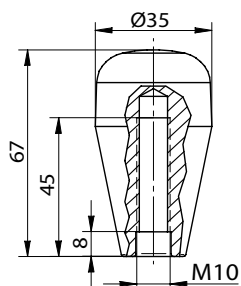
K- KNOB SERIES

KB	=	Duroplast knob
KC	=	Technopolymer knob
KD	=	Duroplast knob with switch
KK	=	Duroplast knob with rubber cap
KP	=	Duroplast spherical knob
KW	=	Duroplast knob with switch

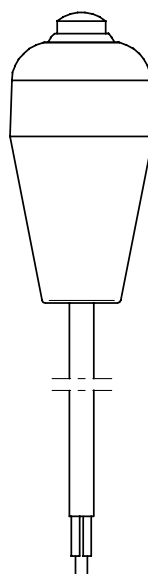
S- STRAIGHT SERIES

SA	=	Handle without electric switch
SD	=	Handle with electric switch
SS	=	Handles with electric switch to close and safety button
SX	=	Handle with electric switch to close
SY	=	Handle with electric switch dual rocker type
SZ	=	Handle with 2 or 3 positions latched rocker

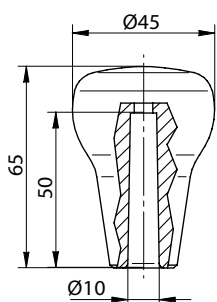
KB - DUROPLAST KNOB



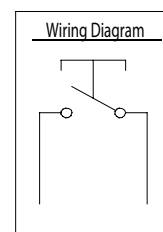
KD - DUROPLAST KNOB WITH SWITCH



KC - TECHNOPYMER KNOB

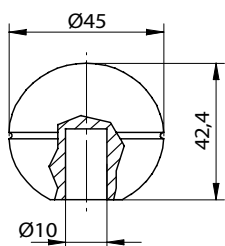


Protection: IP64
 Rating current: 5A@28VDC
 resistive load
 Electrical life: 25,000 cycles
 Mechanical life: 10⁶ cycles

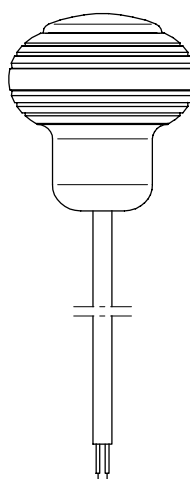


For installation dimensions see *Knob KB*

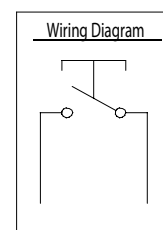
KP - DUROPLAST SPHERICAL KNOB



KW - DUROPLAST KNOB WITH SWITCH

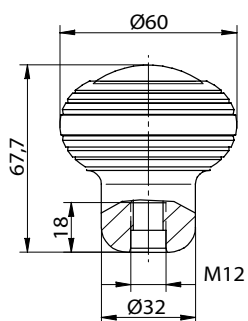


Protection: IP54
 Rating current: 6A@250VAC
 Mechanical life: 10⁷ cycles

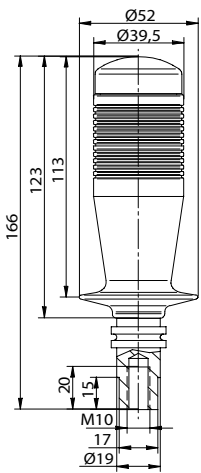


For installation dimensions see *Knob KK*

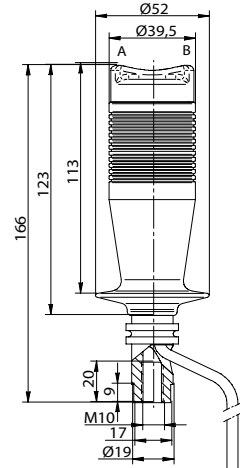
KK - DUROPLAST KNOB WITH RUBBER CAP



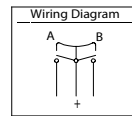
SA - WITHOUT SWITCH



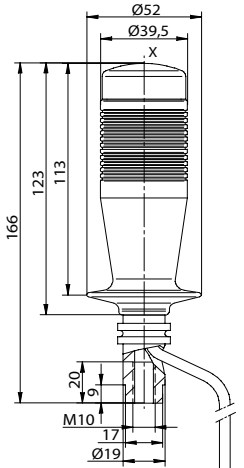
SY - WITH ONE MOMENTARY 3 POSITION ROCKER



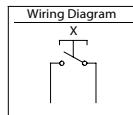
Sealing: IP54
Rating currents: 16A@250VAC
Mechanical life: 10⁶ cycles
Electrical life: 5x10⁴ cycles



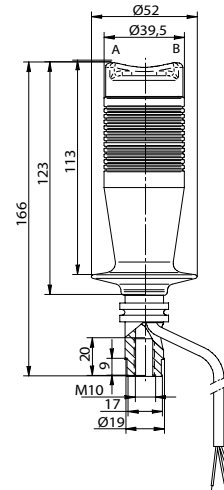
SX - WITH ONE SWITCH ON THE TOP



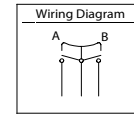
Sealing: IP54
Rating currents: 16A@250VAC
Mechanical life: 10⁶ cycles
Electrical life: 5x10⁴ cycles



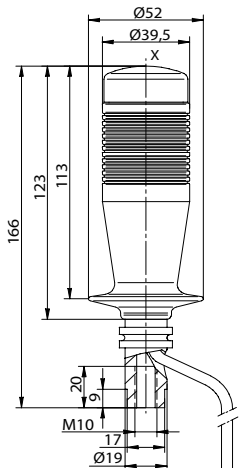
SZ3 - WITH 3 LATCHED Pos. | SZ2 - WITH 2 LATCHED Pos.



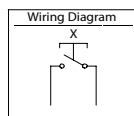
Sealing: IP54
Rating currents: 16A@28VDC
Mechanical life: 10⁶ cycles
Electrical life: 25x10⁴ cycles



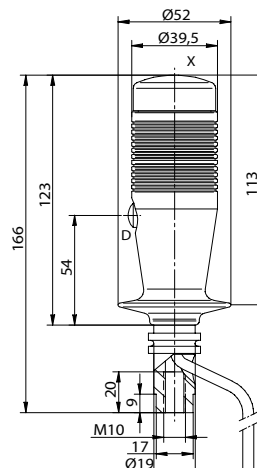
SS - WITH ONE SWITCH ON THE TOP WITH SAFETY CAGE



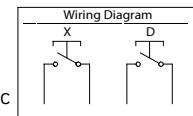
Sealing: IP54
Rating currents: 16A@250VAC
Mechanical life: 10⁶ cycles
Electrical life: 5x10⁴ cycles



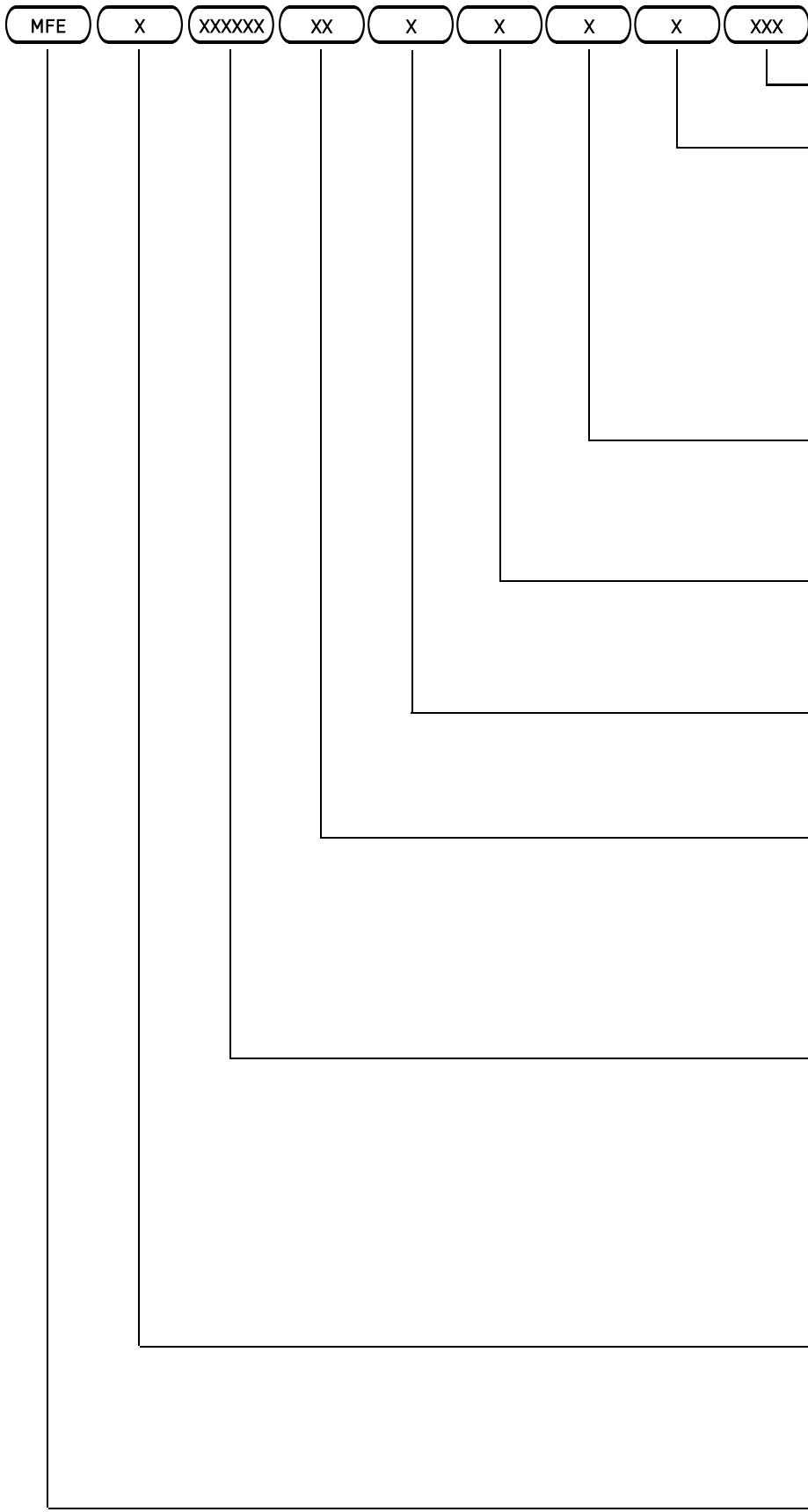
SD - WITH ONE SWITCH ON THE TOP AND ONE ON THE SIDE



Sealing: IP54
Rating currents: 16A@250VAC/5A@28VDC
Mechanical life: 10⁶ cycles
Electrical life: 2x10⁴/25x10³ cycles



MFE - MODEL CODING



Rocker Switch Option *

* Omit if not required

Tilted Option See Page 9

- 0** = Standard Straight M10x1.5
- 1** = Tilted 15° forward
- 2** = Tilted 15° right (LH handle)
- 3** = Tilted 15° left (RH handle)
- 4** = Combined tilted forward and right (LH handle)
- 5** = Combined tilted forward and left (RH handle)
- 6** = With spherical joint, adjustable from 0° up to 20° in any direction
- 7** = Tilted 15° backward

Gaiter Collar See Page 8

- 0** = Basic version without provision for protection boot
- R** = With provision for round boot
- S** = With provision for square boot

Wiring Termination

- 0** = Standard
- 2** = With connector (maker and model number to be specified on order)

Safety Trigger In pos. 7 See Page 5

- X** = Without safety trigger
- T** = With standard safety trigger
- TCAP** = With capacitive safety trigger

Push Button/Switch in pos. 8÷17 See Page 8

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

Push Button/Switch in pos. 1÷6 See Page 5

Insert ID letter for each button/switch chosen on the following list and in progressive sequence from 1 up to position 6.

- X** = No button switch
- B** = Blue
- G** = Green
- R** = Red
- Y** = Yellow
- W** = White (available only for type C and E)
- L** = Signaling led
- K** = Black (Only type C)
- A** = Grey (Only type C)
- V** = Purple (Only type C)
- O** = Orange (Only type C)

Push Button/Switch Option See Page 5

- A** = Plastic push button with micro-switches
- C** = Push button with micro-switches
- E** = Sealed push button with micro-switches

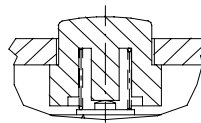
Model

- MFE** = Multifunction Ergonomic

Example: MULTIFUNCTION ERGONOMIC HANDLE, PUSH BUTTON C, POS.1 BLUE BUTTON, POS.4 RED BUTTON, WITHOUT SAFETY TRIGGER, STANDARD TERMINALS, SQUARE BOOT, TILTED 15° FORWARD: **MFE-C-1BXXRXX-X0S1**

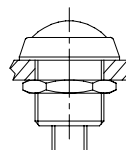
A - PLASTIC PUSH BUTTON

Protection:	IP40
Rating currents:	5A@30VDC resistive load
Input voltage range:	30 VDC
Electrical life:	10 ⁴ cycles
Mechanical life:	2x10 ⁶ cycles



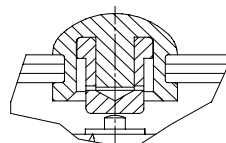
C - ISOLATED PUSH BUTTON

Protection:	IP64
Rating currents:	5A@28VDC resistive load
Electrical life:	25x10 ³ cycles
Mechanical life:	10 ⁶ cycles



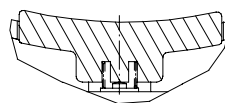
E - SEALED SERVICEABLE PUSH BUTTON

Protection:	IP40
Rating currents:	5A@30VDC resistive load
Input voltage range:	30 VDC
Electrical life:	10 ⁴ cycles
Mechanical life:	2x10 ⁶ cycles



T - SAFETY TRIGGER

Protection:	IP40
Rating currents:	5A@30VDC resistive load
Input voltage range:	30 VDC
Electrical life:	10 ⁴ cycles
Mechanical life:	2x10 ⁶ cycles



TCAP - CAPACITIVE SAFETY TRIGGER

Protection:	IP65 / IP54 for redundant version
Rating currents:	100mA/ up to 3A for redundant version
Input voltage range:	10-30 VDC
Electrical life:	3x10 ⁶ cycles

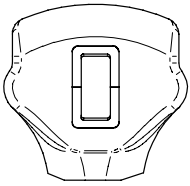


S - TYPE

Protection: IP68S
Rating currents: 16A@28VDC
resistive load
Mechanical life: 10⁵ cycles
Electrical life: 25x10³ cycles



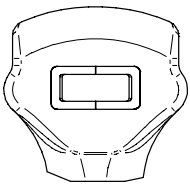
VERTICAL MOUNTED



S1B: IP68S 3 positions momentary rocker switch
S2B: IP68S 3 positions latched rocker switch

S5B: IP68S 2 positions latched rocker switches
S3B: IP68S 3 positions latched and momentary rockers

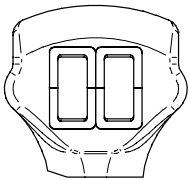
HORIZONTAL MOUNTED



S1A: IP68S 3 position momentary rocker switch
S2A: IP68S 3 position latched rocker switch

S5A: IP68S 2 positions latched rocker switches
S3A: IP68S 3 positions latched and momentary rockers

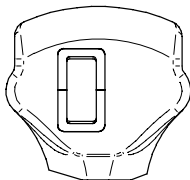
TWO VERTICAL MOUNTED



S4A: IP68S 3 position momentary rocker switch
S4B: IP68S 3 position latched rocker switch

S5E: IP68S 2 positions latched rocker switches
S3E: IP68S 3 positions latched and momentary rockers

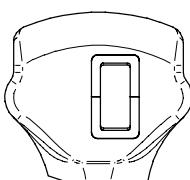
VERTICAL MOUNTED LEFT OFFSET



S1C: IP68S 3 position momentary rocker switch
S2C: IP68S 3 position latched rocker switch

S5C: IP68S 2 positions latched rocker switches
S3C: IP68S 3 positions latched and momentary rockers

VERTICAL MOUNTED RIGHT OFFSET



S1D: IP68S 3 position momentary rocker switch
S2D: IP68S 3 position latched rocker switch

S5D: IP68S 2 positions latched rocker switches
S3D: IP68S 3 positions latched and momentary rocker

D - 4 WAY ON-OFF SWITCH

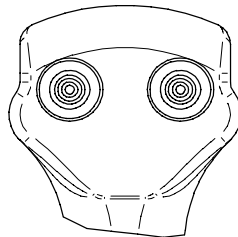
Protection: IP68S
 Rating current: 1A@28VDC inductive
 Electrical life: 10⁵ Cycles



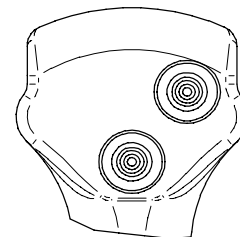
DLDRDB - 3 SWITCHES



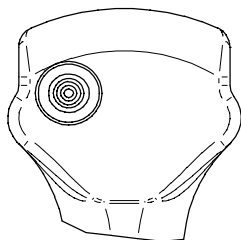
DLDR - 2 SWITCHES TOP



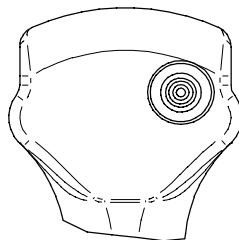
DRDB - 2 SWITCHES RIGHT



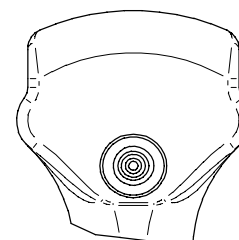
DL - 1 SWITCH LEFT



DR - 1 SWITCH RIGHT



DB - 1 SWITCH CENTER

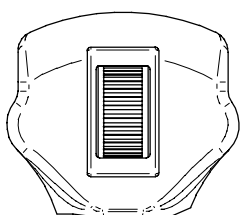


RP - PROPORTIONAL ROLLER

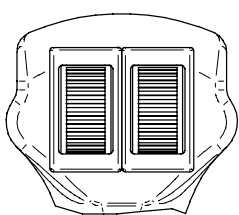
Supply voltage: 5 VDC
 Sealing: IP68S
 Output signal: 0,5-4,5 VDC with 2,5V in neutral position
 Mechanical life: 3x10⁶ Cycles



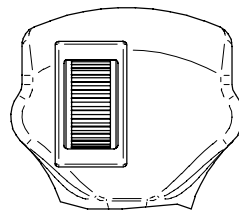
RP - ONE CENTERED



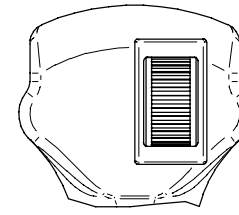
2RP - TWO CENTERED



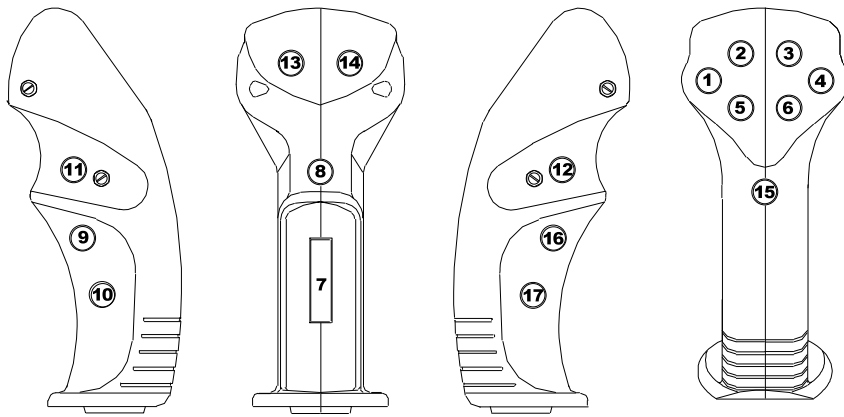
RPS - ONE LEFT OFFSET



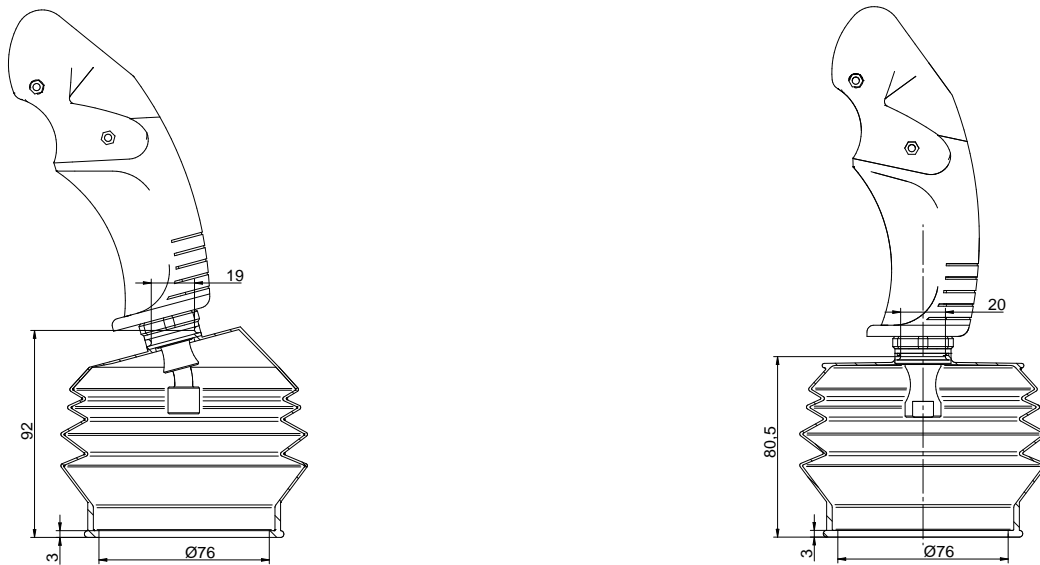
RPD - ONE RIGHT OFFSET



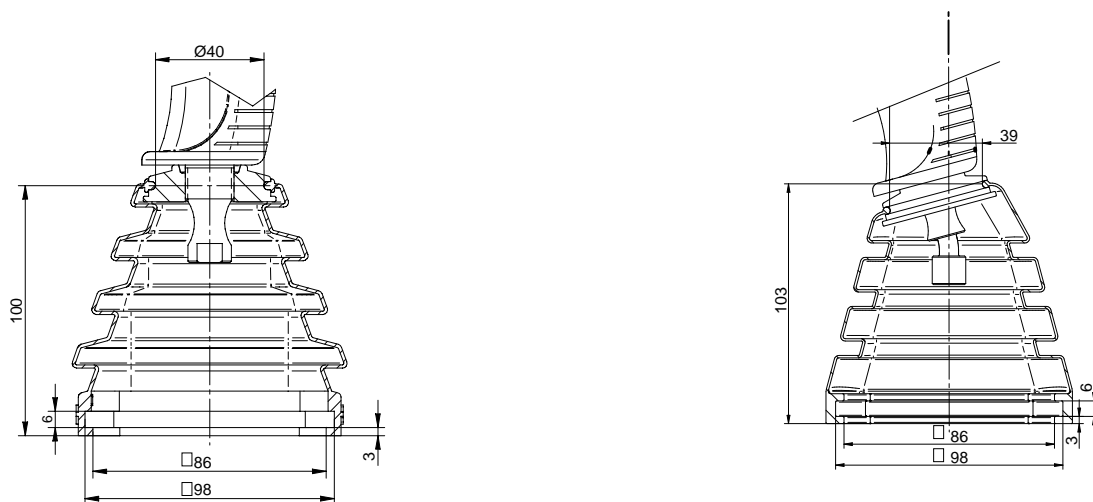
MFE



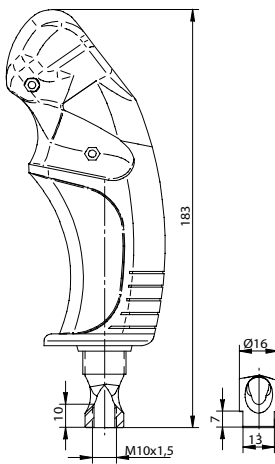
R - ROUND PROTECTION BOOT



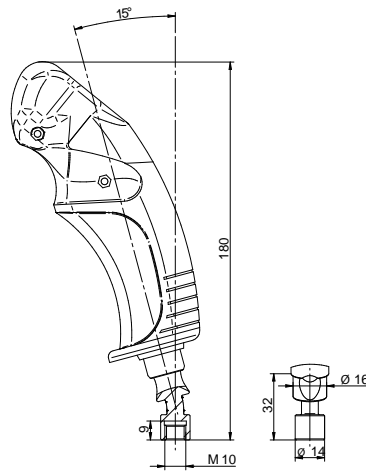
S - SQUARE PROTECTION BOOT



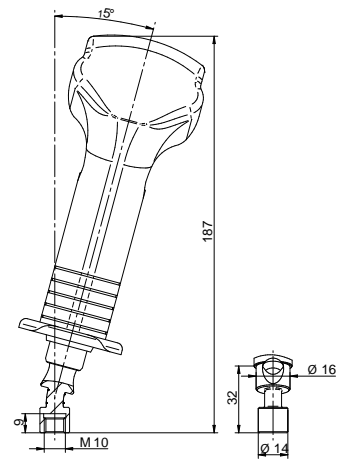
0 - STANDARD STRAIGHT



1 - TILTED 15° FORWARD



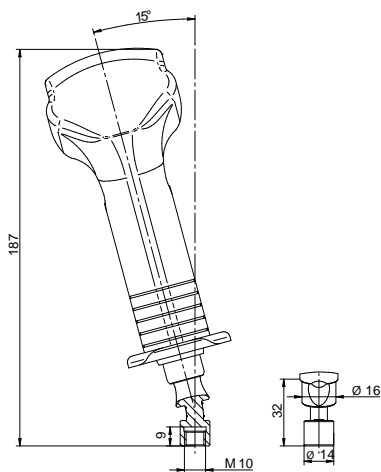
2 - TILTED 15° RIGHT



LH Handle

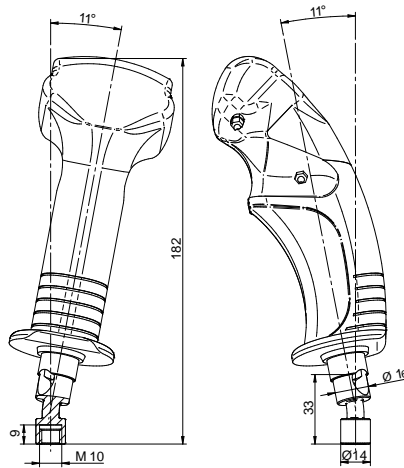
3 - TILTED 15° LEFT

RH Handle



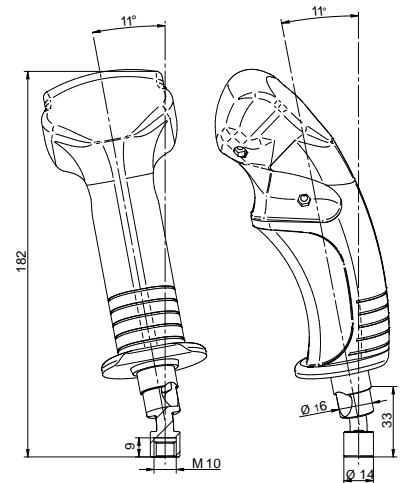
4 - COMBINED TILTED FRW & RIGHT

LH Handle

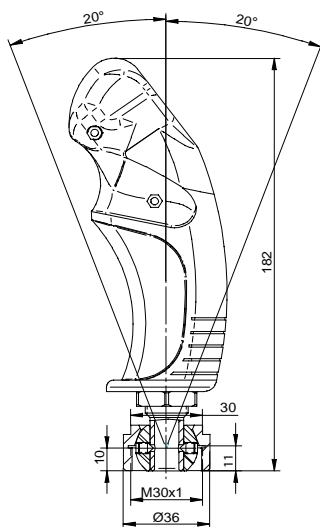


5 - COMBINED TILTED FRW & LEFT

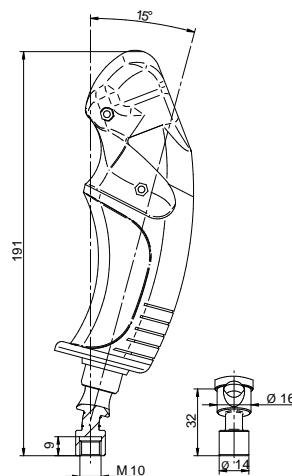
RH Handle



6 - WITH SPHERICAL JOINT



7 - TILTED 15° BACKWARD



MFE2 - MODEL CODING



Tilted Options ** See Page 13

- = Standard Straight
- S2** = Tilted 15° Right (LH handle)
- S3** = Tilted 15° Left (RH handle)

Wiring Termination

- 0** = flying leads
- 2** = with connector (to be specified on order)

Safety Trigger See Page 5

- X** = no safety trigger
- T** = standard safety trigger
- TCAP** = capacitive safety trigger

Rocker switch or Roller in position A ÷ L See Page 11

- G R1** = R1 Rocker in position G (See Page 12)
First letter=position, other 2 letters = control type.
Repeat if necessary
- RL** = Proportional roller with lever
- RP** = Proportional roller without lever
- RF** = Proportional roller frictioned without lever
- RC** = Proportional roller compact
- RW** = Proportional roller with PWM output
- R1** = Latched rocker switch 3 positions
- R2** = Latched rocker switch 2 positions
- R3** = Momentary rocker switch 3 positions

Push button / switch in position 1 ÷ 9 See Page 11

For each control selected, insert position number and ID letter chosen on the following list. Note: # = color code. **Example:** for a push button blue in position 2 and a minijoystick in position 5, type **2B 5J**

- | | |
|-------------------------------------|---------------------------------------|
| X = No button switch | Y = Yellow push button |
| B = Blue push button | A = Grey push button |
| K = Black push button | R = Red push button |
| G = Green push button | W = White push button |
| O = Orange push button | L# = Signalling led |
| #L = Latched button with led | #M = Momentary button with led |
| D = Four ways switch | J = Four ways minijoystick |
| TS = Toggle Switch | V = Purple push button |

Model

- MFE2** = Multifunction Ergonomic Handle 2

= Assigned color

Example: MULTIFUNCTION ERGONOMIC HANDLE 2, POS 1 BLUE BUTTON, POS 4 GREEN LATCHED BUTTON WITH LED, POS 5 RED PUSH BUTTON, POS 8 FOUR WAY SWITCH, POS E PROPORTIONAL ROLLER WITHOUT LEVER, STANDARD SAFETY TRIGGER, FLYING LEADS:
MFE2-1B4G5R8D-ERP-T-0

** For special configuration, please contact Hydreco Hydraulics

PUSH BUTTON TYPE C

Protection: IP64
Rating currents: 5A@28VDC resistive load
Electrical life: 25,000 cycles
Mechanical life: 10⁶ cycles



PROPORTIONAL ROLLER

Supply voltage: 5 VDC
Sealing: IP68S
Output signal: 0,5-4,5 VDC with 2,5V in neutral position
Mechanical life: 3x10⁶ cycles



ROCKER SWITCH

Sealing: IP68S
Rating currents: 16A@28VDC resistive load
Mechanical life: 10⁵ cycles
Electrical life: 25x10³ cycles



FOUR WAYS SWITCH

Protection: IP68S
Rating currents: 1A@28VDC inductive
Electrical life: 10⁵ cycles



SIGNALING LED

Color available: White, Red, Yellow, Green, Blue
Supply voltage: 12 or 24 VDC
Mounted: On panel with support



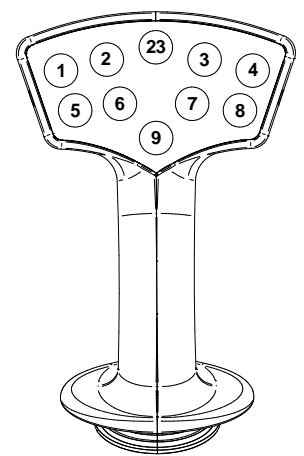
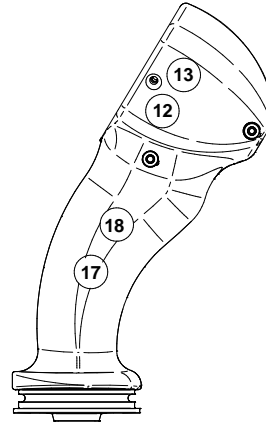
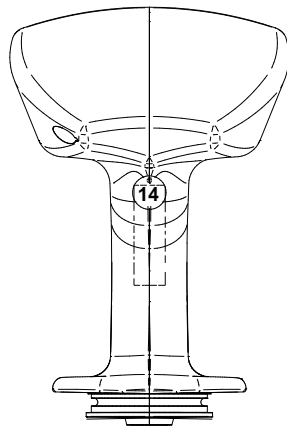
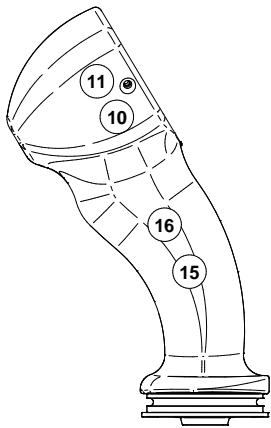
FOUR WAY PROPORTIONAL MINI-JOYSTICK

Protection: IP68S
Supply voltage: 5 VDC
Output voltage: 0.5-4.5 V with 2.5 V in neutral, for each axis
Mechanical life: 10⁶ cycles



Note: Other controls available on request.

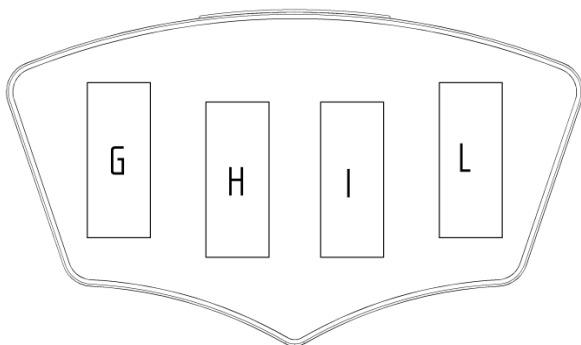
MFE2



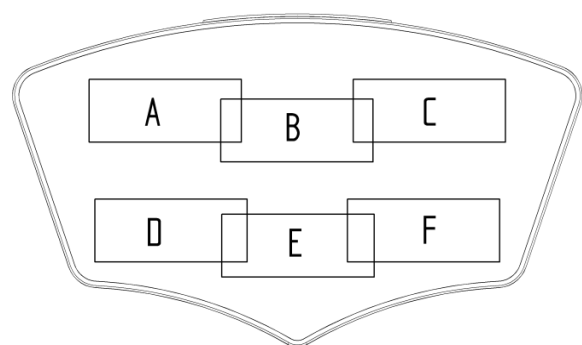
In case standard safety trigger is required, push buttons in position n.14, 15, 17, 18 cannot be added.

POSITIONS FOR CONTROLS

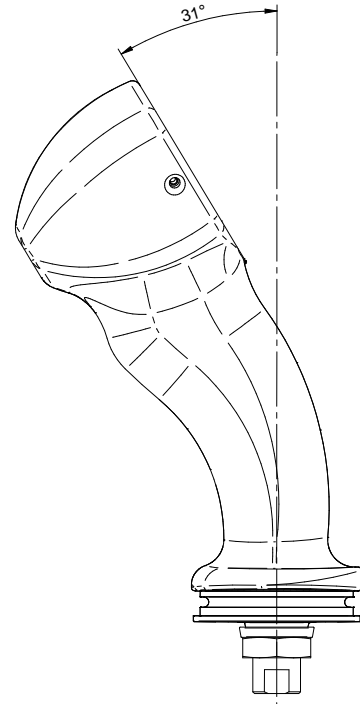
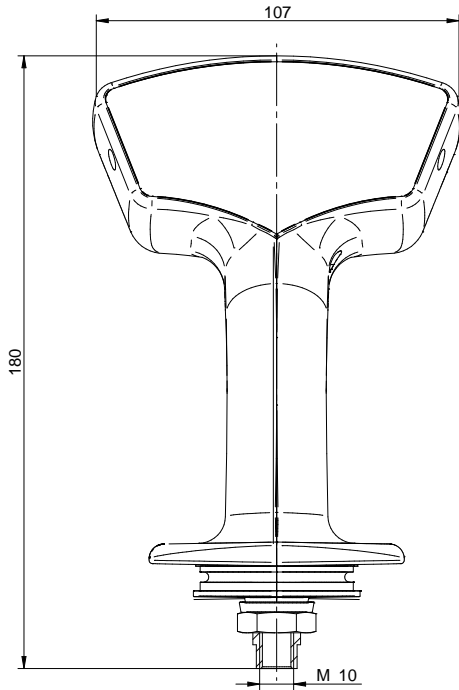
Standard positions for rocker and proportional roller, vertical mounted



Standard positions for rocker and proportional roller, horizontal mounted

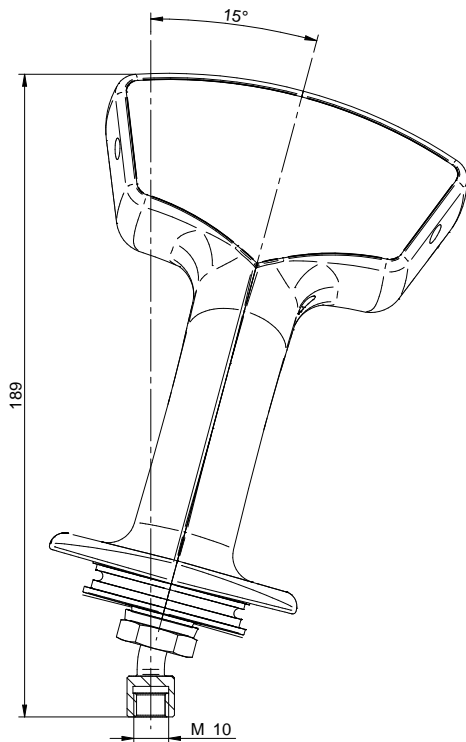


0 - STANDARD STRAIGHT



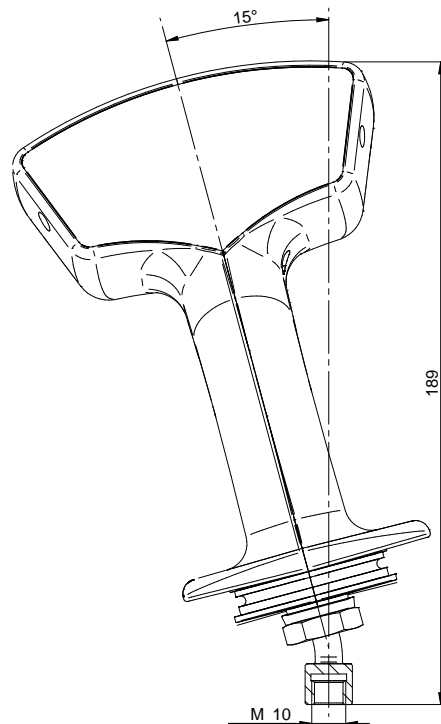
S2 - TILTED 15° RIGHT

LH Handle

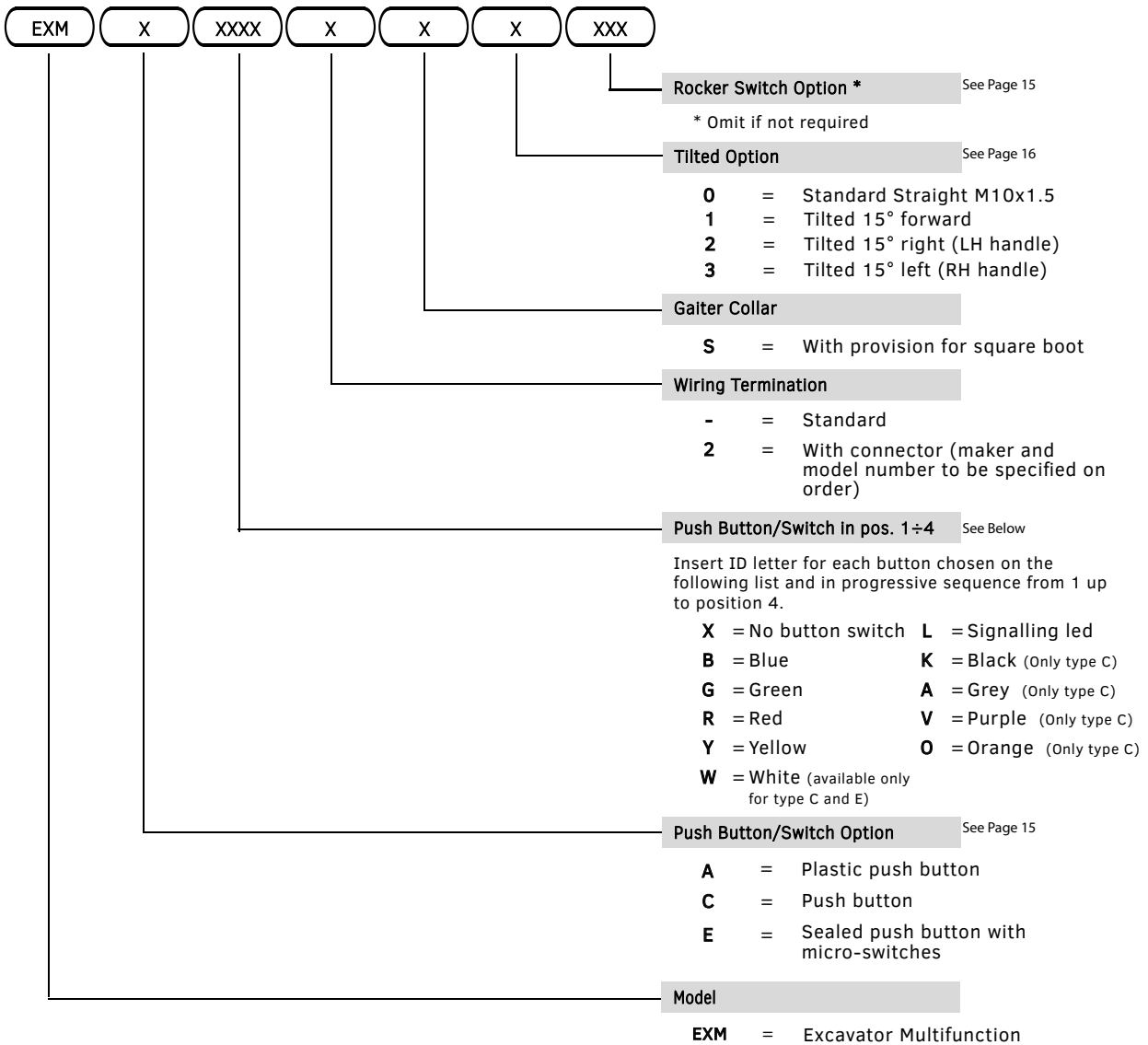


S3 - TILTED 15° LEFT

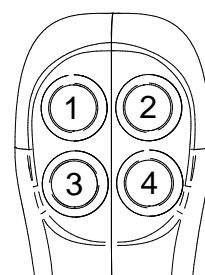
RH Handle



EXM - MODEL CODING



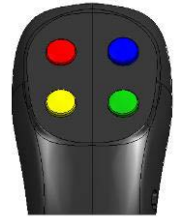
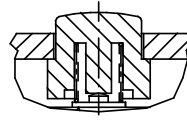
Example: EXCAVATOR MULTIFUNCTION HANDLE, PUSH BUTTON C, POS.1 BLUE BUTTON, POS.4 GREEN BUTTON, STRANDARD TERMINAL, SQUARE BOOT, STANDARD STRAIGHT: **EXM-C-BXXG-S0**



Buttons Position

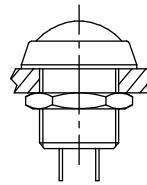
A - PLASTIC PUSH BUTTON

Protection: IP40
Rating currents: 5A@30VDC resistive load
Input voltage range: 30 VDC
Electrical life: 10⁴ cycles
Mechanical life: 2x10⁶ cycles



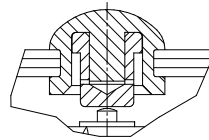
C - ISOLATED PUSH BUTTON

Protection: IP64
Rating currents: 5A@28VDC resistive load
Electrical life: 25,000 cycles
Mechanical life: 10⁶ cycles



E - SEALED SERVICEABLE PUSH BUTTON

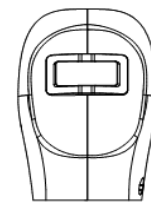
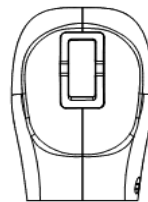
Protection: IP40
Rating currents: 5A@30VDC resistive load
Input voltage range: 30 VDC
Electrical life: 10⁴ cycles
Mechanical life: 2x10⁶ cycles



S TYPE - WATERPROOF ROCKER SWITCH

VERTICAL MOUNTED

HORIZONTAL MOUNTED



Sealing: IP68S
Rating currents: 16A@28VDC resistive load
Mechanical life: 10⁵ cycles
Electrical life: 25x10³ cycles



S1B: IP68S 3 positions momentary rocker switch
S2B: IP68S 3 positions latched rocker switch
S5B: IP68S 3 positions latched rocker switch
S3B: IP68S 3 positions latched and momentary rocker

S1A: IP68S 3 positions momentary rocker switch
S2A: IP68S 3 positions latched rocker switch
S5A: IP68S 2 positions latched rocker switch
S3A: IP68S 3 positions latched and momentary rocker

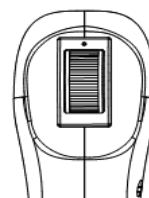
HORIZONTAL WITH TYPE C



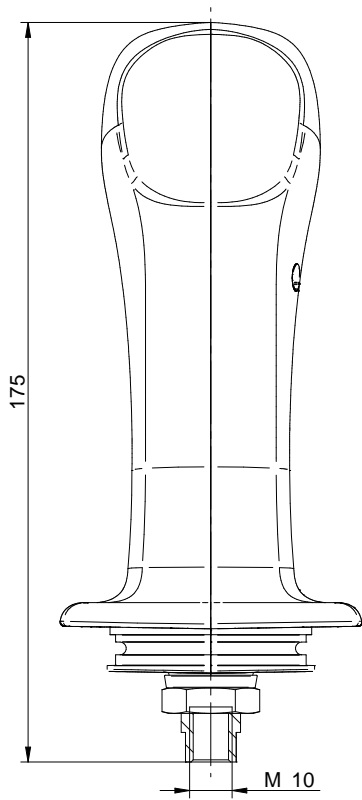
PROPORTIONAL ROLLER

VERTICAL MOUNTED

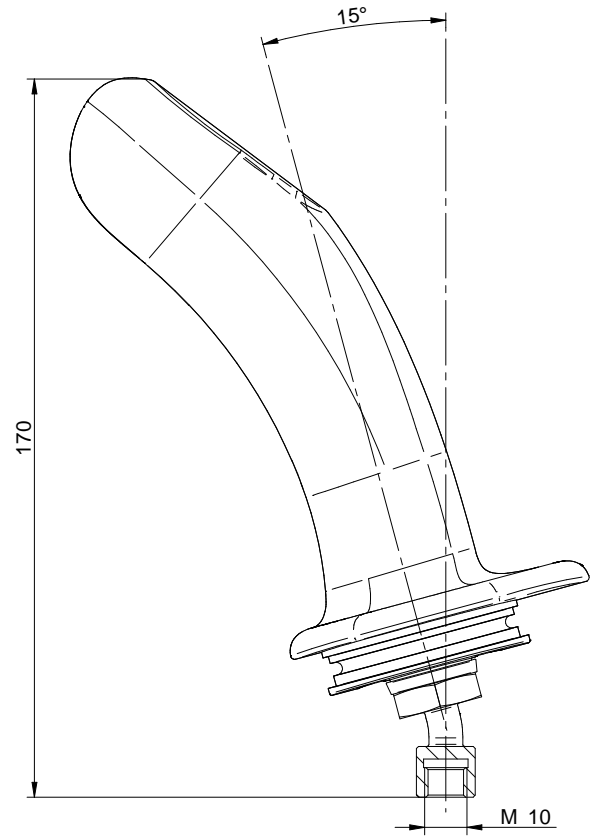
Supply voltage: 5VDC
Sealing: IP68S
Output signal: 0,4-4,5 VDC with 2,5V in neutral position
Mechanical life: 3x10⁶ cycles



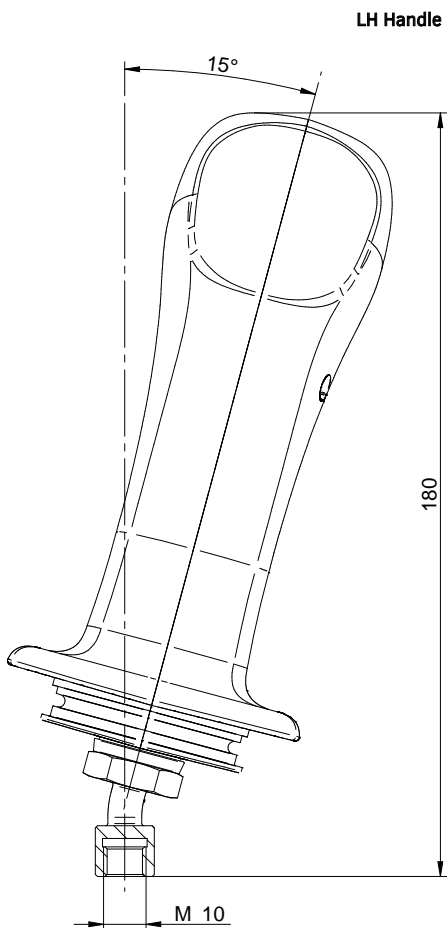
0 - STANDARD STRAIGHT



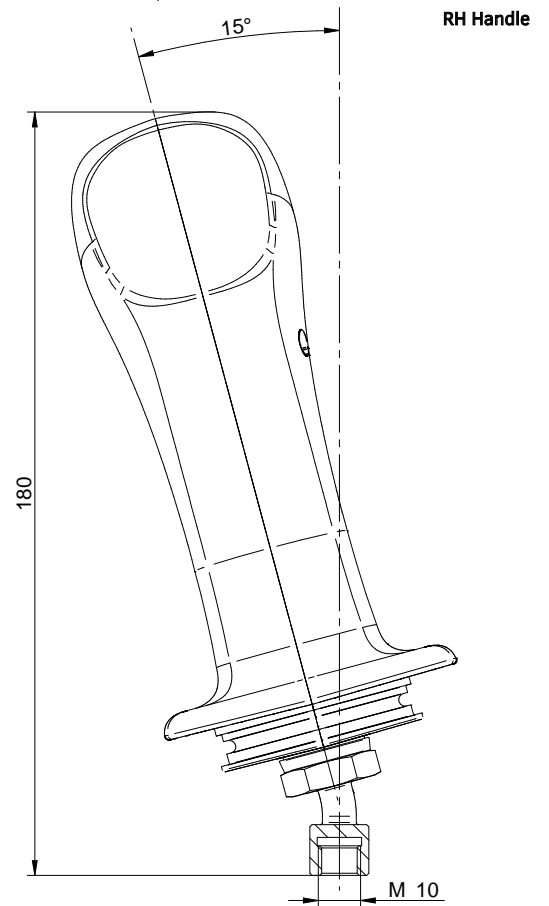
1 - TILTED 15° FORWARD



2 - TILTED 15° RIGHT



3 - TILTED 15° LEFT



Supported by a worldwide network



CONTACT INFORMATION

EMEA

GERMANY	Hydreco Hydraulics GmbH, Straelen (NRW)	+49 283494303-41	info-de@hydreco.com
ITALY	Hydreco Hydraulics Italia Srl, Vignola (MO)	+39 059 7700411	sales-it@hydreco.com
NORWAY	Hydreco Hydraulics Norway AS, Nittedal	+47 22909410	post-no@hydreco.com
UK	Hydreco Hydraulics Ltd, Poole, Dorset	+44 (0) 1202 627500	info-uk@hydreco.com

AMERICAS

USA	Hydreco Inc, Rock Hill (SC)	+1 704 295 7575	sales-us@hydreco.com
LATIN AMERICA		+1 704 572 6266	sales-es@hydreco.com

APAC

AUSTRALIA	Hydreco Hydraulics Pty Ltd, Seven Hills (NSW)	+61 2 9838 6800	sales-au@hydreco.com
AUSTRALIA	Hydreco Hydraulics Pty Ltd, Smeaton Grange (NSW)	+61 2 4647 6577	au-smeatongrange@hydreco.com
AUSTRALIA	Hydreco Hydraulics Pty Ltd, Welshpool (WA)	+61 8 9377 2211	reception-wa@hydreco.com
INDIA	Hydreco Hydraulics India Private Ltd, Bangalore	+91 80 67656300	sales-in@hydreco.com