



<u>Index of content:</u>	Page
Description & technical data:	3
Dimensional data:	4
Push button switches & signalling leds:	5 + 6
Caps colours & push button switches positioning:	7
Mounting adaptors:	8 + 9
Cables' configuration:	10
Protection boots:	11
Ordering key:	12



## Description:

"IE1" series multifunction grips are available either loosen or mounted on our electric & hydraulic joysticks and on the control rods of our directional control valves.

Thanks to the ergonomic design and to the wide choice of button switches, available in "on-off" or proportional configuration, these grips allow the operator an easy and friendly control, even with one hand only, of the various services working either in sequence or simultaneously, with minimum effort and in intuitive mode, leaving his attention to be focused on the operating functions therefore without being distracted to find out the push-buttons spread on the control panel as it happens on traditional systems. This improves consistently and optimize the safety level of the operator and of the working area around the machine.

Particular attention has been given to the choice of components to ensure maximum reliability and long life even in the hardest working conditions.

A wide range of optional accessories is available including various types of mounting adaptors and rods, protection rubber boots of round or square design, standard or customized cables with or without connectors in order to match any need for the various applications.

## Technical data:

### Grip body:

- Body material:	Nylon®
- Resistance against UV rays:	Good
- Resistance against hydraulic oils:	Good
- Protection class:	IP 54
- Ambient temperature range:	from -20° up to + 60°C
- Mounting adaptors material:	Zinc plated steel & brass

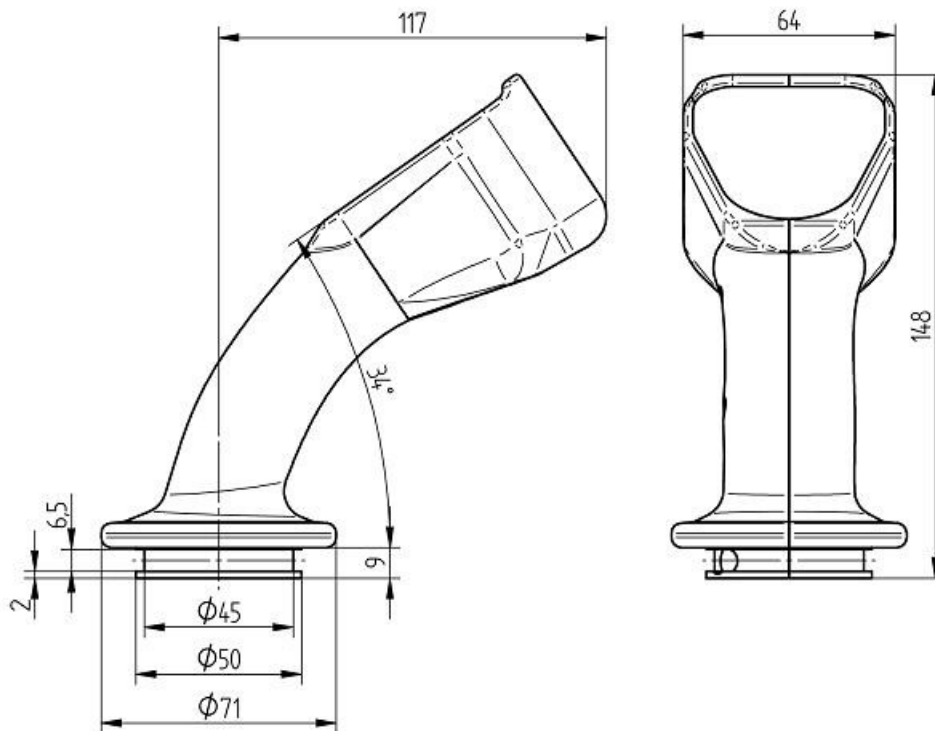
### Standard push-button switches (type A & B):

- Max. electric load:	5 A resistive, 3 A inductive
- Voltage supply range:	from 5 up to 28 VDC
- Electrical life:	from 25.000 cycles @ max. load up to 1.000.000 cycles @ 1A resistive
- Mechanical life:	1.000.000 cycles
- Protection class:	P64 standard (IP68 on request)
- Working temperature range:	from - 55° up to + 85°C
- Total push-button stroke:	2 mm max.
- Release force:	75 N +/- 20
- Contacts material:	Gold plated silver alloy

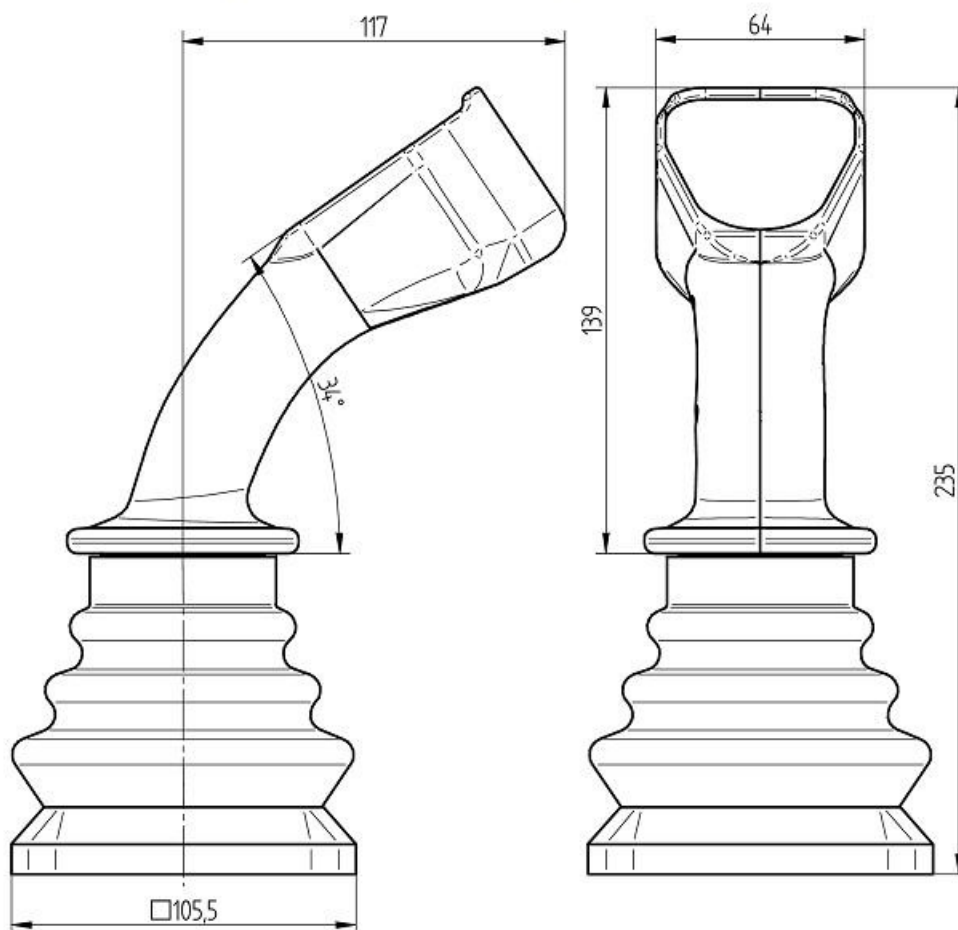
### Conductor wires:

- Wires material:	Tinned copper strands
- External isolating protection:	PVC
- Cable's protection plait tube:	Polyester fibre
- Wire' section:	0,50 mm <sup>2</sup>
- Conductors laying up:	Conforming to VDE 0295 Class 6
- Approvals:	UL - CSA - HAR
- Standard wires' length:	500 mm (other dimensions on request)

## Dimensional data:



Grip series IE1 without protection boot



Grip series IE1 fitted with protection boot

## Push button switches & signalling leds:

The following pictures represent the range of standard switches, many other types are available on request.

					
"ON-OFF" push button with orange high type cap	<b>AO</b>	"ON-OFF" push button with yellow low type cap	<b>BY</b>	"ON-OFF" with blue low type cap & white led	<b>BLB</b>

					
"ON-OFF" with red high type cap & white led	<b>ALR</b>	"OFF-ON" detented green low type cap & red led	<b>GLA</b>	"OFF-ON" detented green high type cap & light	<b>GLQ</b>

					
"MOM-OFF-MOM" rocker switch no led	<b>ROI</b>	"ON-OFF-ON" rocker switch with leds	<b>ROL</b>	Single axis proportional rocker std type	<b>RPM</b>

## Push button switches & signalling leds:

					
Single axis proportional rocker large type	<b>RPL</b>	Linear hall effect proportional switch	<b>PPL</b>	Dual axis proportional mini-joystick	<b>MJP</b>

					
Hand wheel proportional potentiometer	<b>PRV</b>	Lever switch "OFF-ON" 2 detented positions	<b>ILS</b>	Dual axis 4 "ON-OFF" contacts mini-joystick	<b>MJ4</b>

					
Emergency push button switch with leds	<b>PE</b>	High intensity light signalling leds of various colours	<b>LO</b>	"Dead man" safety trigger	<b>UP</b>

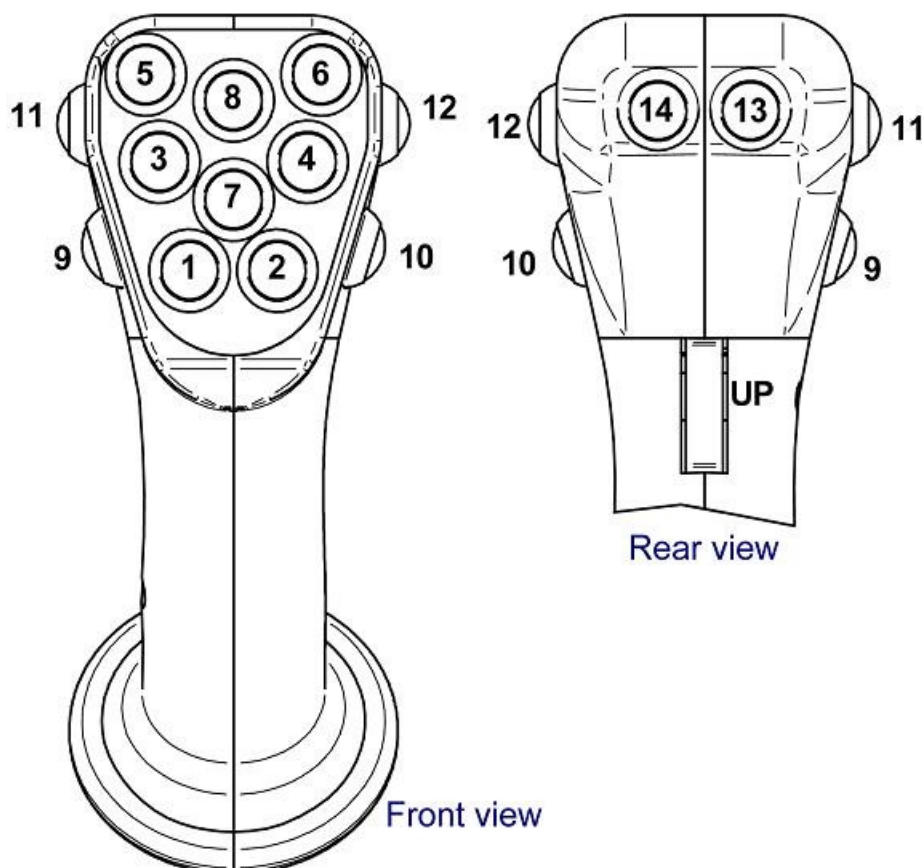
## Caps colours:

Valid only for standard round push buttons type **A** (high) and **B** (low)

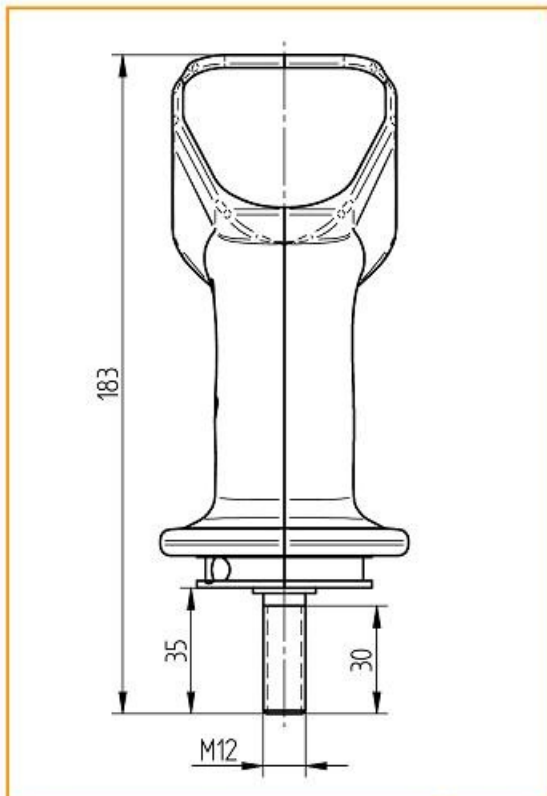
Orange	<b>O</b>		Yellow	<b>Y</b>		Red	<b>R</b>	
White	<b>W</b>		Grey	<b>H</b>		Green	<b>G</b>	
Blue	<b>B</b>		Black	<b>N</b>		Violet	<b>V</b>	

## Push button switches positioning:

Valid for standard round push buttons only (insert position identification numbers after the pair of digits identifying cap's type and colour); positioning codes of other types of push button and rocker switches to be assigned by Fluidea.

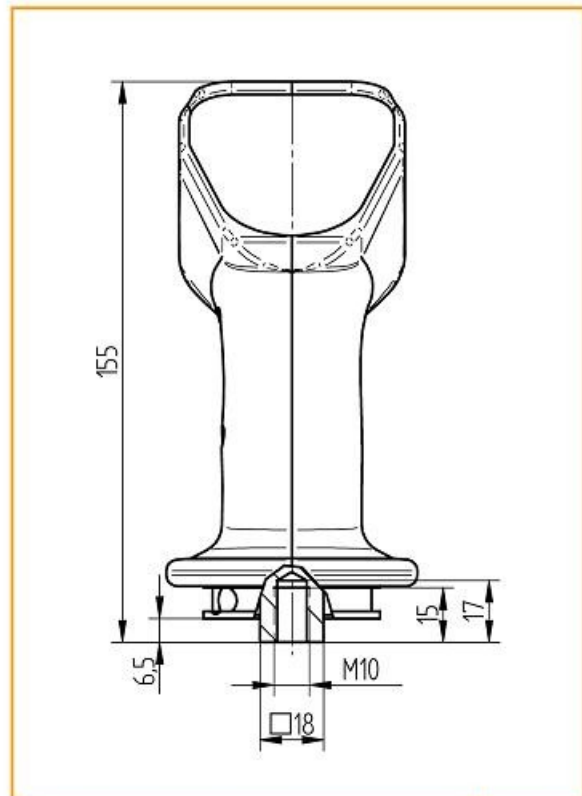


## Mounting adaptors:



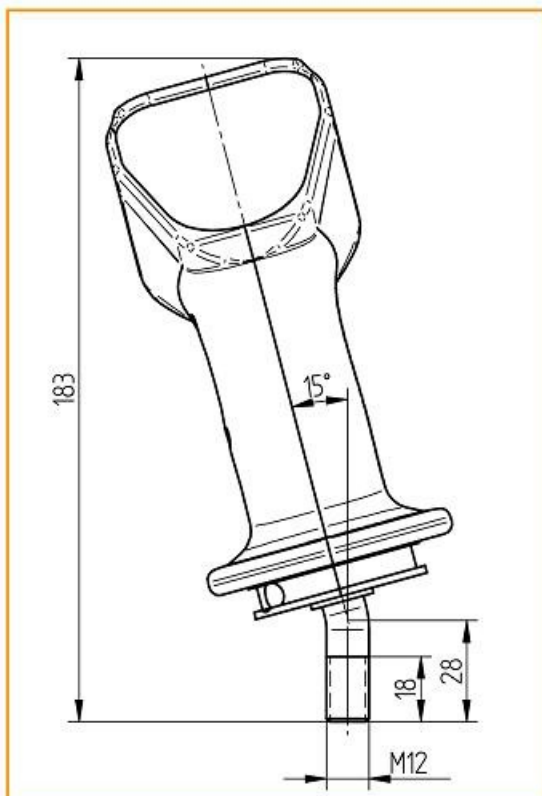
M12 male straight

**DM**



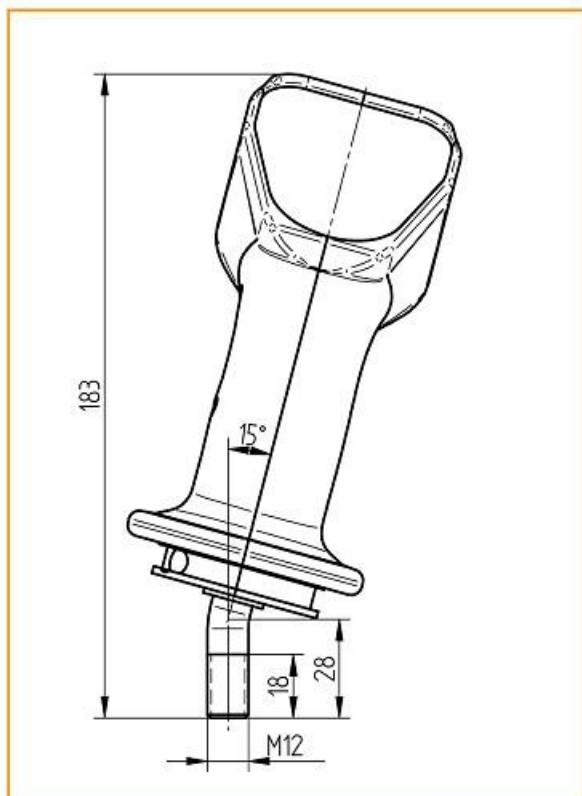
M10 female straight

**DF**



M12 male bent 15° west

**IW**

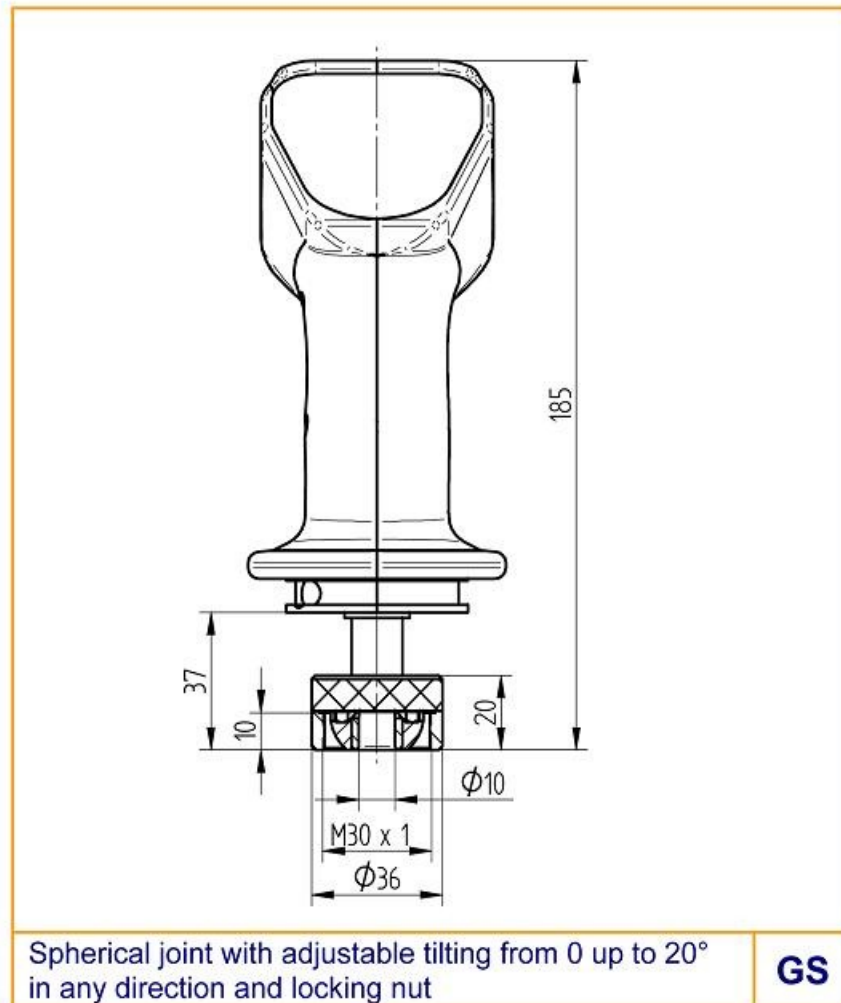


M12 male bent 15° east

**IE**



Mounting adaptors:



## Cables' configuration

Without cables	<b>Z</b>
High flexibility 0,50 mm <sup>2</sup> , single pole cables	<b>G</b>
Special customized cable (data to be specified)	<b>R</b>
0,50 mm <sup>2</sup> , multicore cable with 2 or 3 poles	<b>S</b>

## Cables' length:

Without cables	<b>00</b>
Standard length, in cm from bottom side of handle	<b>50</b>
Length on request, in cm from bottom side of handle	<b>XX</b>

## Wiring terminations:

Without cables	<b>Z</b>
Non plated 5 mm flying leads	<b>N</b>
Tin plated 5 mm flying leads	<b>S</b>
Cabled connector (model nbr. to be specified)	<b>C</b>

## Protection boots:

Without protection boot

**Z**

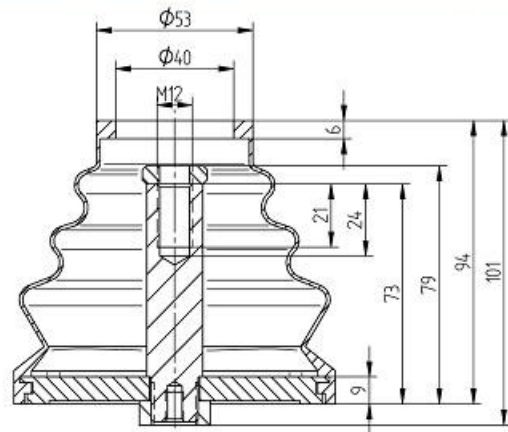
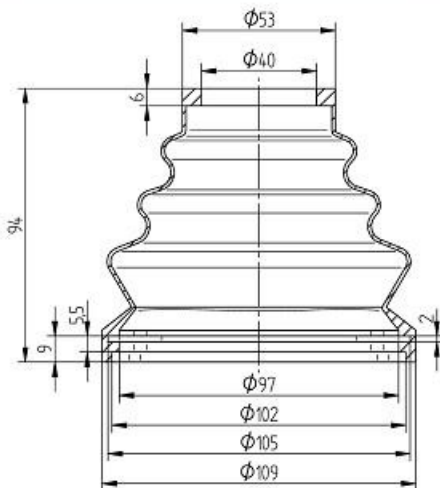


With protection boot

**Q**

With protection boot  
and mounting flange kit

**F**



Fixing on 4 symmetrical slots, 7 mm wide,  
set out on diameter D=100±108 mm

## Ordering key:

IE1	BG1	BY2	AR3	AB4	UP	DF	G	50	N	Q
-----	-----	-----	-----	-----	----	----	---	----	---	---

**Q** = square protection boot  
(page 11)

**N** = standard wiring terminations  
(page 10)

**50** = 50 cm standard cable's length  
(page 10)

**G** = 0,50 mm<sup>2</sup> single pole standard  
standard cables (page 10)

**DF** = M10 female straight adaptor  
(pages 8 - 9)

**UP** = "Dead man" safety trigger  
(page 6)

**AB4** = standard round blue high cap  
in pos. 4 (pages 5 - 6)

**AR3** = standard round red high cap  
in pos. 3 (pages 5 - 6)

**BY2** = standard round yellow low cap  
in pos. 2 (pages 5 - 6)

**BG1** = standard round green low cap  
in pos. 1 (pages 5 - 6)

**IE1** = design series



*excellence in hydraulic  
& electronic systems  
with competence*

*& innovative ideas*

## The range

- Hydraulics pumps & motors
- Directional control valves
- Remote controls & electronics equipment
- Filters & contamination control
- Heat exchangers & cooling systems
- Fluid monitoring instruments
- Mechanical couplings & accessories
- Design and supply of hydraulic components and customized systems