

Fluidea

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Knob handles IP1 2.04.04

Index

| | |
|-----------------------------------------------------------------|---------------|
| Description | Page 3 |
| Technical features: | Page 4 |
| Range and overall dimension of the knobs without pushbutton: | Pages 5 ÷ 6 |
| Range and electric diagrams of the knobs with pushbutton: | Pages 7 ÷ 8 |
| Pushbutton and actuator cap colour options: | Page 9 |
| 4-ways on-off pushbutton: | Page 10 |
| Mounting levers: | Pages 11 ÷ 12 |
| Wiring configuration: | Page 13 |
| Ordering key: | Page 14 |

Description:

Knobs range type "IP1" includes different shapes as conical and spherical, with threaded or press-fit assembly and are available with or without electric pushbutton. In the standard configuration, the pushbutton is two positions and N.O. on-off circuit.

They can be supplied loosen or assembled on levers of different lengths, with standard or customized wiring, with connectors on specific request.



The "IP1" knob body is made of black thermoplastic material with good resistance to solvents, oils, greases and other chemical agents. It can be used at low or high ambient temperatures and it's UV resistant.

On request, knobs are available in 5 colour options: light blue, red, white, yellow, orange.

Some versions without pushbutton are available with magnifying lens for functional symbols or ideograms.

Knobs with electric components are assembled with dust-proof pushbuttons with 5 A resistive (3 A inductive) maximum current, maximum voltage 28 VDC, 2 or 4 pins and protection degree IP64 (IP68 on request). Pushbuttons are operated by serviceable plastic cap actuator available in 9 different colours and flush or raised shape.



Optional transparent silicon caps are available for very dusty environments.



All items are in compliance with European Directive 2002/95/CE



The data and the technical features in this catalogue are not binding. The manufacturer reserves the right to carry out modifications, by its unquestionable judgement and without prior notice, in order to improve its products. The manufacturer is not responsible for damage to people or properties caused by an improper use of the product.

Technical features:

Shells:

| | |
|----------------------------|-------------------------------|
| Material: | Polyamide Techno polymer (PA) |
| UV resistance: | Good |
| Mineral oil resistance: | Good |
| Ambient temperature range: | from -30 to +85°C |

Levers:

| | |
|-----------------------|-------------|
| Material: | Steel |
| Protecting treatment: | Galvanizing |

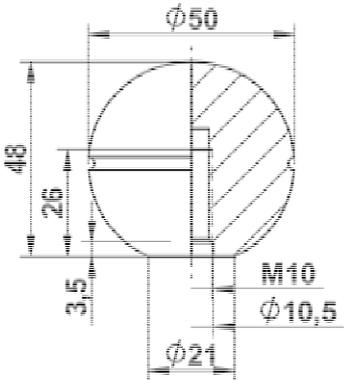
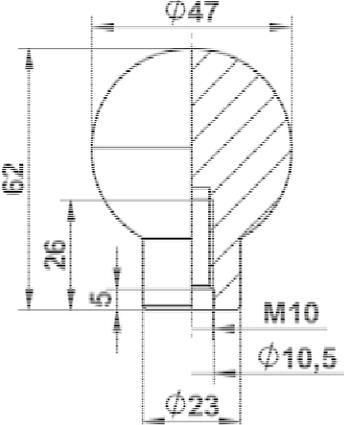
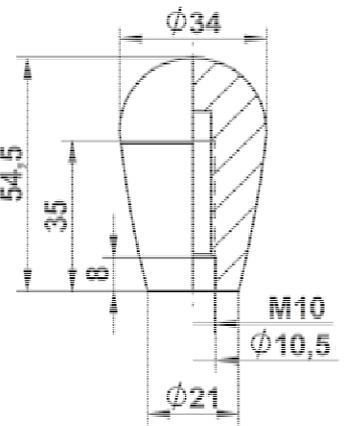
Pushbuttons:

| | |
|----------------------------|------------------------------------------------------------------|
| Maximum current: | 5 A resistive, 3 A inductive |
| Supply voltage: | from 5 to 28 VDC |
| Electrical life: | from 25.000 cycles for 5A @ 28 VDC up to 1.000.000 cycles for 1A |
| Mechanical life: | 1.000.000 cycles |
| Protection degree: | IP64 standard (IP68 on request) |
| Ambient temperature range: | from -55 to +85°C |
| Operating force: | 7,5±0,2 N |
| Total stroke: | 2 mm max. |

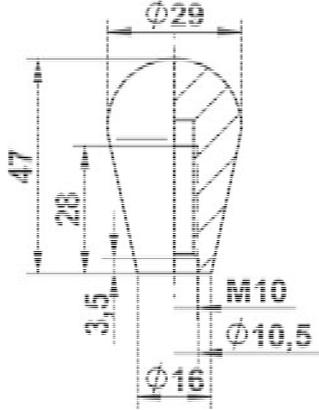
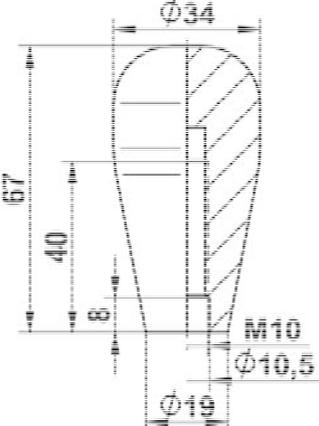
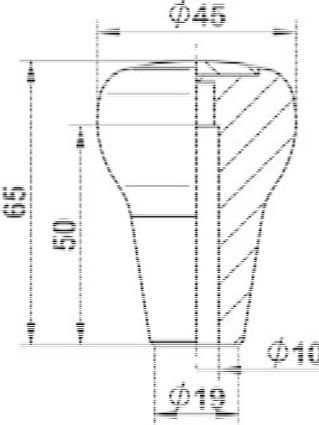
Terminals:

| | |
|-------------------------------|----------------------------------|
| Terminal material: | Tinned copper strands |
| External insulation material: | Black PVC |
| Wire sleeve material: | Black polyester fibre |
| Wire section: | 0,50 mm ² |
| Rope making wires: | Class 6 VDE 0295 |
| Approvals: | UL - CSA - HAR |
| Standard length: | 500 mm (other length on request) |

Range and overall dimensions of the configurations without pushbutton

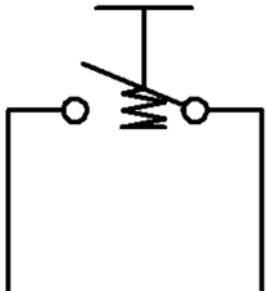
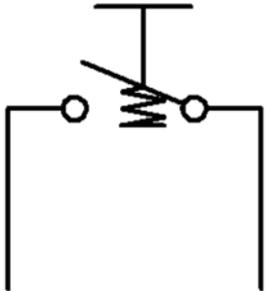
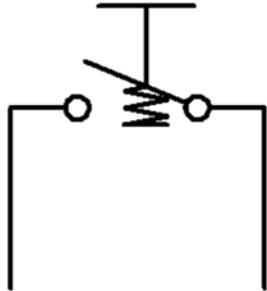
| | | | |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------|-------------------------------------|
|  |  | <p>Standard Spherical knob D50</p> | <p>AS</p> |
|  |  | | <p>Spherical knob D47 with stem</p> |
|  |  | <p>Conical knob D34x54,5</p> | |

Range and overall dimensions of the configurations without pushbutton

| | |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |  |
| <p>Conical knob D29x47</p> | <p>DS</p> |
|  |  |
| <p>Conical knob D34x67</p> | <p>ES</p> |
|  |  |
| <p>"Soft-touch" knob D45x65</p> | <p>FS</p> |

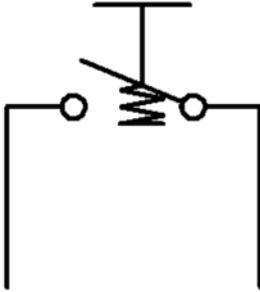
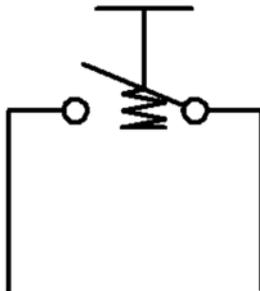
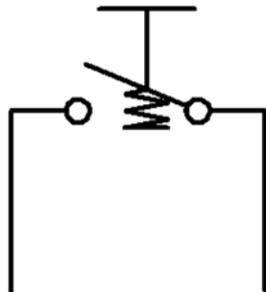
Range and overall dimensions of the configurations with pushbutton

All the overall dimensions are the same of the knobs without pushbutton

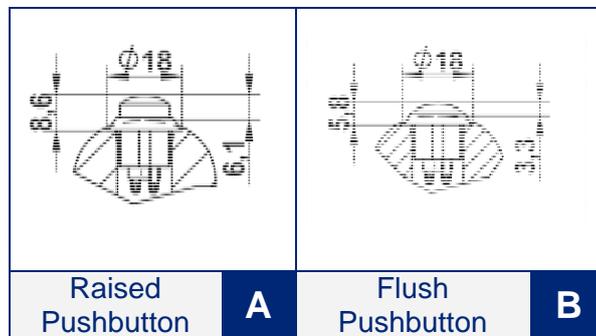
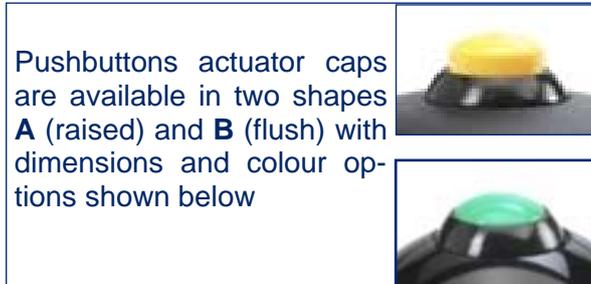
| | |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |  |
| <p>Standard Spherical knob D50</p> | |
| <p>AP</p> | |
|  |  |
| <p>Spherical knob D47 with stem</p> | |
| <p>BP</p> | |
|  |  |
| <p>Conical knob D34x54,5</p> | |
| <p>CP</p> | |

Range and overall dimensions of the configurations with pushbutton

All the overall dimensions are the same of the knobs without pushbutton

| | |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |  |
| <p>Conical knob D29x47</p> | |
| <p>DP</p> | |
|  |  |
| <p>Conical knob D34x67</p> | |
| <p>EP</p> | |
|  |  |
| <p>"Soft-touch" knob D45x65</p> | |
| <p>FP</p> | |

Pushbutton options:



Standard colour option for the actuator caps

| | | | | | | | | |
|--------|----------|-------------------------------------------------------------------------------------|--------|----------|-------------------------------------------------------------------------------------|--------|----------|---------------------------------------------------------------------------------------|
| Orange | O |  | Yellow | Y |  | Red | R |  |
| White | W |  | Grey | H |  | Green | G |  |
| Blue | B |  | Black | N |  | Violet | V |  |

The colour options shown above are valid for the standard momentary pushbuttons with on-off N.O. circuit, with raised (**A**) or flush (**B**) cap actuator without led

Pushbutton option:

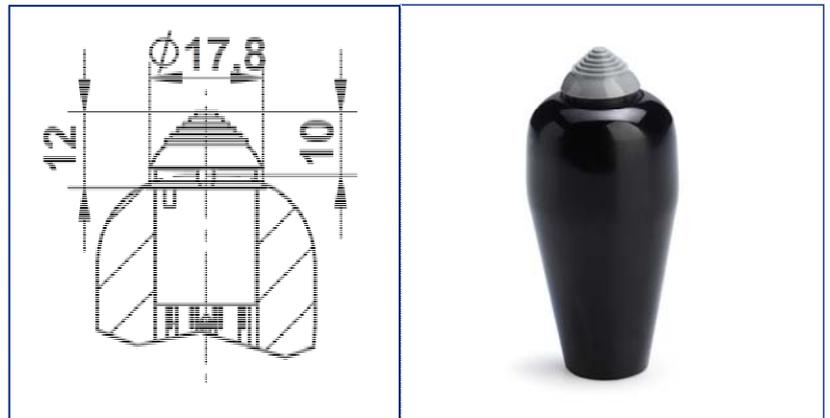
4-way on-off
pushbutton

MJ4

Technical features:

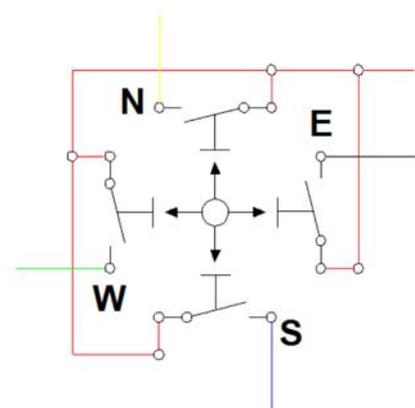
- | | |
|---------------------------|------------------------------|
| - Maximum current: | 1 A resistive, 2 A inductive |
| - Minimum current.: | 10 μ A @ 30 mV |
| - Maximum supply voltage: | 28 VDC |
| - Electrical life: | 100.000 cycles |
| - Mechanical life: | 500.000 cycles |
| - Protection degree: | IP68 |
| - Ambient temperature: | from - 55 to + 85°C |
| - Operating angle: | 10° \pm 0,5 |
| - Operating force: | 33 \pm 1 N |

The 4-way pushbutton can be assembled only on knob type ES whose overall dimensions without pushbutton are shown at page 6 of this catalogue.

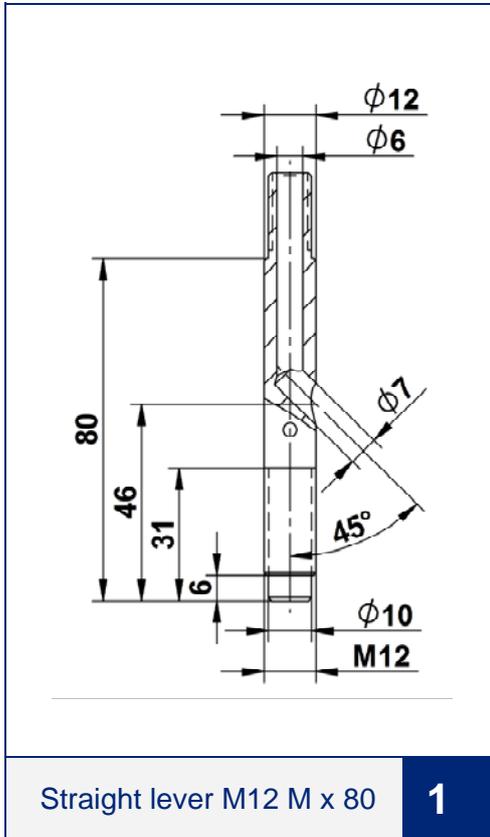


Knob with pushbutton
MJ4 assembled on
lever type 4

Electric diagram:

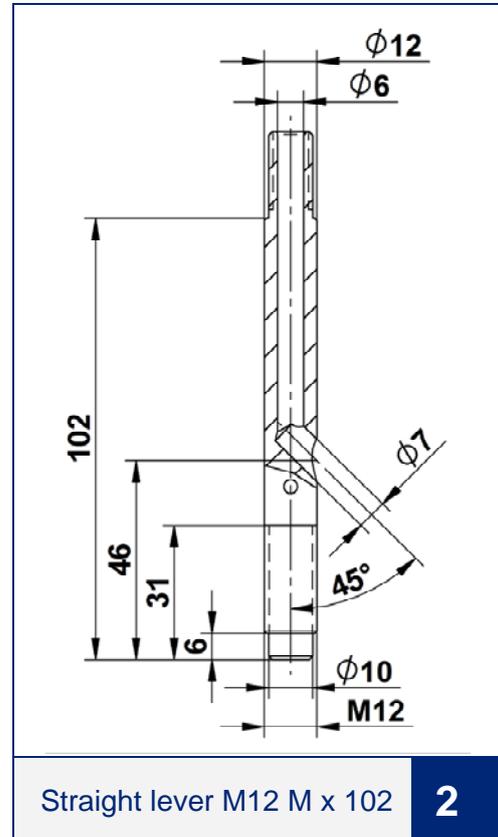


Mounting Levers:



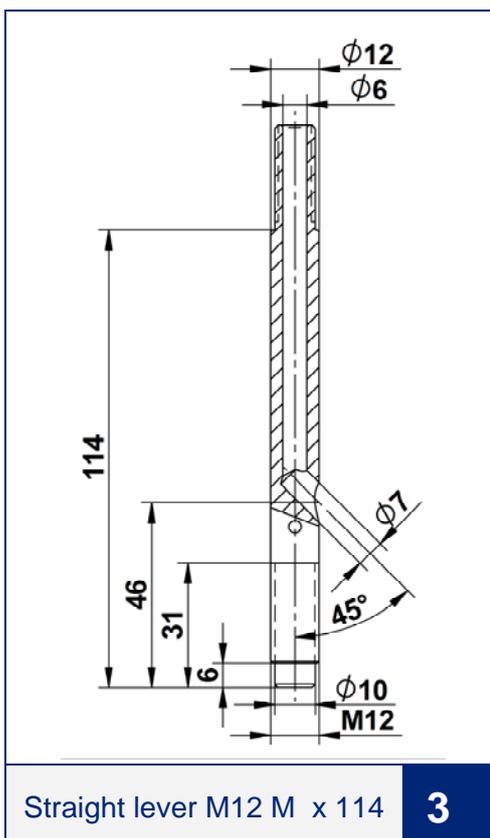
Straight lever M12 M x 80

1



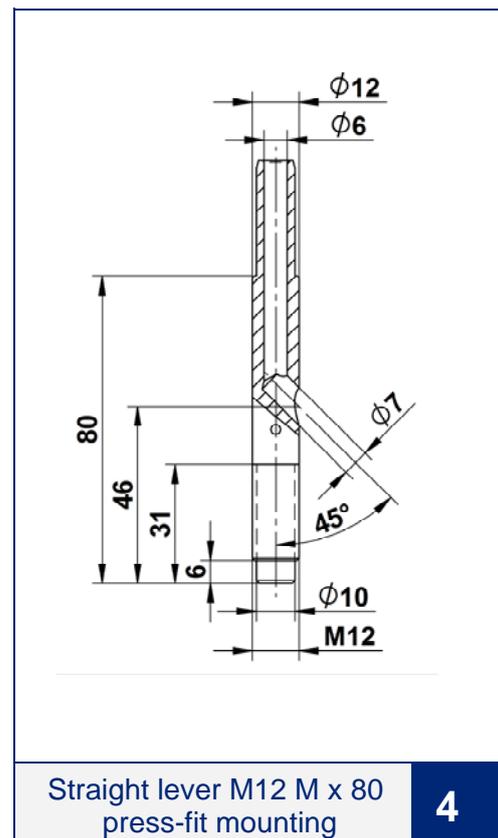
Straight lever M12 M x 102

2



Straight lever M12 M x 114

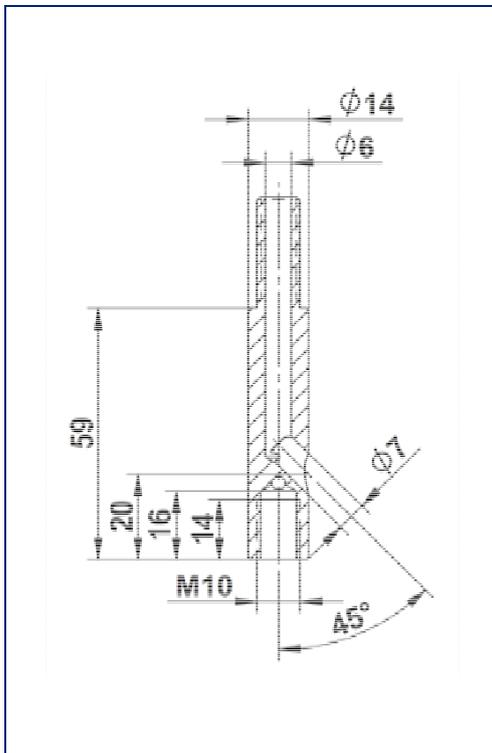
3



Straight lever M12 M x 80
press-fit mounting

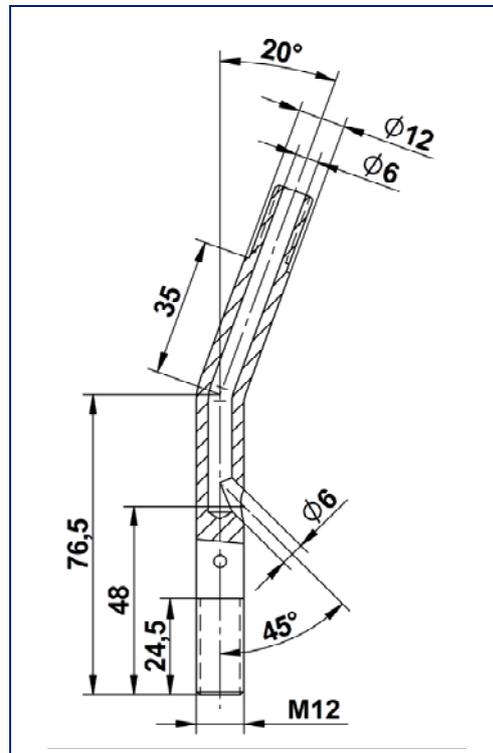
4

Mounting Levers:



Straight lever M10 F x 59

5



Bent lever M12 M x 20°

6



Knob examples assembled on threaded lever with wired pushbutton



Wire configuration

| | |
|-------------------------------------------------------------|---|
| Without wires | Z |
| Single high flexibility , section 0,50 mm ² | G |
| Multicore cable, 2 or 3 wires, section 0,50 mm ² | M |
| Special wire on request (specify features) | S |

Wire length

| | |
|--------------------------------------------|-----|
| Without wires | 00 |
| Standard length, from handle bottom (cm) | 50 |
| Length on request, from handle bottom (cm) | 300 |

Wire terminals

| | |
|---------------------------------------------------------|---|
| Without wires | Z |
| Wire terminal with 5 mm strip, without tinplate | N |
| With faston (specify brand and type) | S |
| Connector (specify brand and type) with wired terminals | C |



Customized wiring with connectors are available on request



Ordering key:

IP1 **AP** **BG** **1** **G** **50** **N**

Wire terminals (page 13):

- without wires = **Z**
- wire terminal with 5 mm strip, without tinplate = **N**
- with faston (specify brand and type) = **S**
- Connector (specify brand and type) with wired terminals = **C**

Cable length, in cm (page 13):

- without wires = **00**
- standard length (cm) = **50**
- length on request (cm) = **XX**

Wire configuration (page 13):

- without wire = **Z**
- single high flexibility, section 0,50 mm² with PVC sleeve = **G**
- Multicore cable section 0,50 mm² (with silicon protection) = **M**
- Special wire on request (specify features) = **S**

Mounting levers (pages 11 e 12):

- without mounting lever = **0**
- straight threaded lever M12 M x 80 = **1**
- straight threaded lever M12 M x 102 = **2**
- straight threaded lever M12 M x 114 = **3**
- straight press-fit lever M12 M x 80 = **4**
- straight threaded lever M10 F x 59 = **5**
- bent threaded lever M12 M x 20° = **6**

Cap actuator and pushbutton configuration (page 9-10):

- without pushbutton = **ZZ**
- with raised cap actuator = **A**
(followed by the code of colour option ex. **AR**)
- with flush cap = **B**
(followed by the code of colour option ex. **BG**)
- with 4-way on-off pushbutton = **MJ4**

Knob option (pages 5-6-7-8):

- Spherical standard knob = **AS**
 - Spherical knob with stem = **BS**
 - Conical knob D34 x 54,5 = **CS**
 - Conical knob D29 x 47 = **DS**
 - Conical knob D34 x 67 = **ES**
 - "Soft touch knob" D45 x 65 = **FS**
- For pushbutton option replace **S** digit with **P**

Design serie = IP1

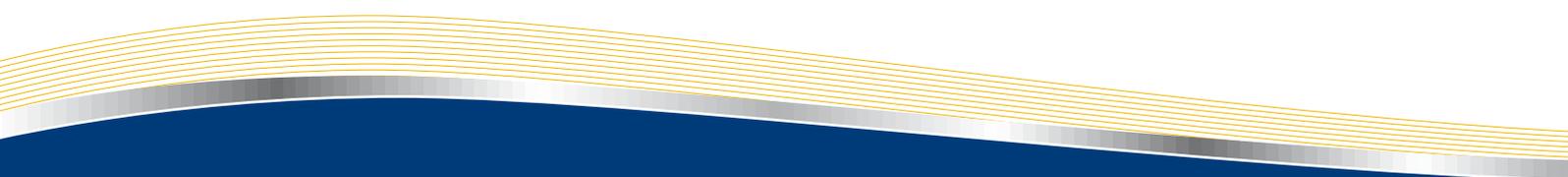
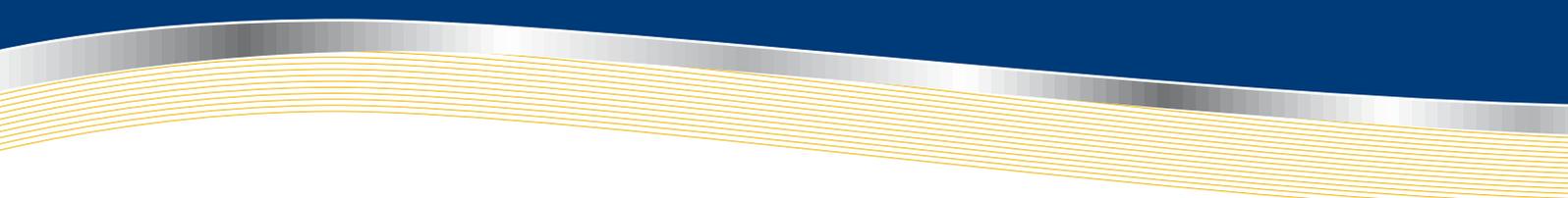
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