«SYSTEMS OF CONTROL - CONSYS» CO., LTD.

Official distributor
of UK company
Orscheln Europe

CONSYS

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MANUFACTURING OF CONTROLL SYSTEMS FOR ALL KINDS OF VEHICLES

TRUCKS

AGRICULTURAL

CONSTRUCTION

BUSES

MARINE

AIR

RAILWAY

MILITARY

SPECIAL

Push-pull control cables

Features & Construction

Core Construction:

Hi-Performance (HP) 1x7 coated core is available in 3, 4 and 6 series cables. HP Core utilizes a unique coating over 1x7 wire rope. This construction offers improved flexibility and higher push loads than armor core construction.

Solid stainless steel core is available in 3 series push-pull, positive lock and PTO cables. Tension cables utilize a 1x19 HP coated core, whilst 8 series push-pull retains the armor construction.

Liners:

All Orscheln brand cables utilize polymer liners, available in standard HP Cable construction with a temperature spec of -54 to +107 C (-65 to +225 F) and HEFT 2 high temperature variant that can withstand temperatures from -54 to 149 C (-65 to 300 F). Factory librication provides optimum core performance without requiring further service.

Note: With quick disconnect control cables head cables, though the conduit/core may be rated to +107 or +149 C, the control head itself is not intended for these temperature ranges.

Stranded Conduit:

Multiple, oil tempered spring wires are placed in a long lay pattern to protect the liner and inner core, maintain flexibility, and withstand extreme compressive and tensile loads. This long lay construction results minimal deflections during cable operation, assuring precise controlling action to the operator.

Conduit Jacket:

Heavy duty, thick-walled polymer jackets are extruded onto the stranded liner for maximum cable strength. Standard HP cable material is a HDPE molded to a dark maroon colour. HEFT 2 Jacket used in high temperature applications, used NYLON based material and is moulded into a gloss black colour.

End Fittings:

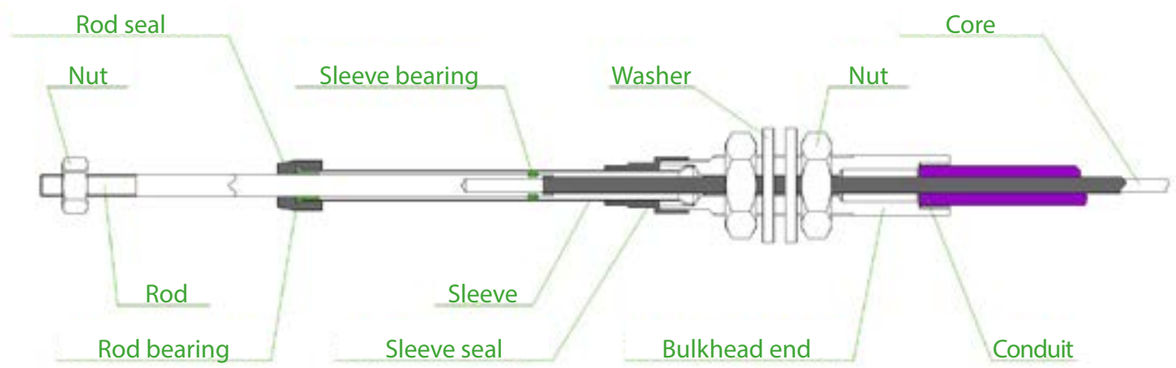
Corrosion resistant materials are used throughout to provide maximum life. Standard 3, 4 and 6 series rods and sleeves are stainless steel, while hubs are steel or aluminium. The 8 series fittings are plated steel.

Seals:

High Performance seals are standard on all our HP cables. Durable custom compounded seals are used to prevent moisture and contaminants from entering the cable. The HP seals operate in all temperature extremes, while offering improved performance and efficiency.

Rod & Sleeve Bearing:

An exclusive polymer rod and sleeve bearing is used to improve efficiency, sealing and cable life by preventing metal to metal contact between the rod and sleeve. They also accurately align the rod with the seal to insure superior sealing and a long life.



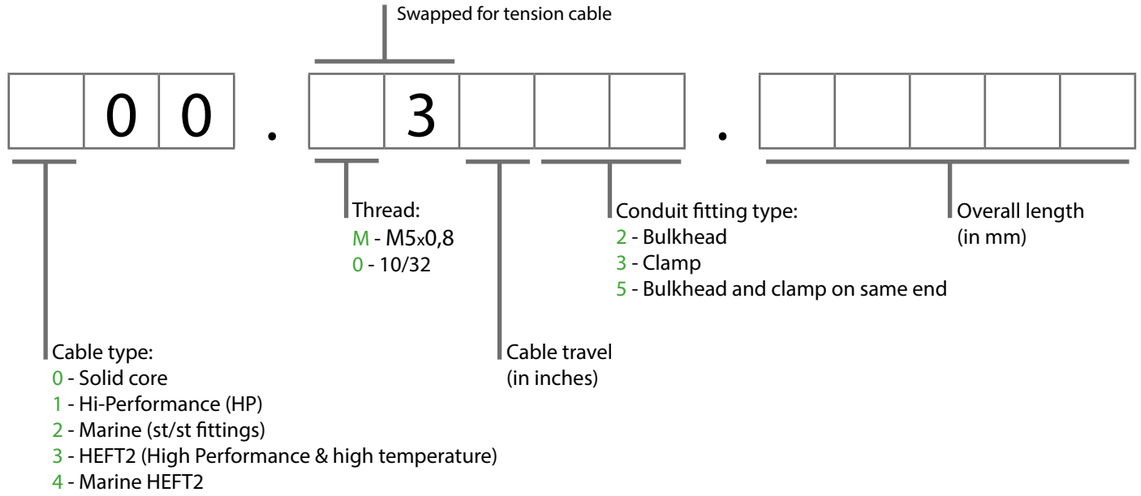
Control cables

Series 3

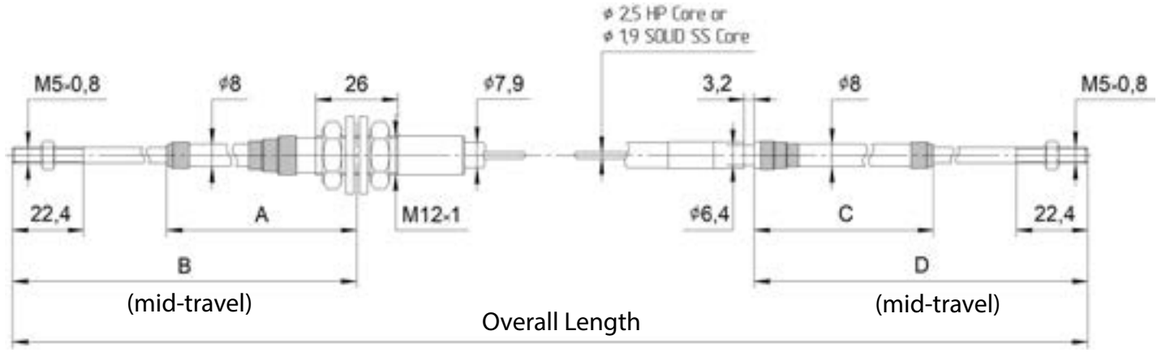
- HP core or solid core available
- Rod thread M5x0,8 (or 10-32 UNF)
- 76 mm (3") bend radii (HP)
- 152 mm (6") bend radii (solid core)

- Temperature Range:
  -54 - +107°C Std.
  -54 - +149°C HEFT2
- Low backlash
- High efficiency

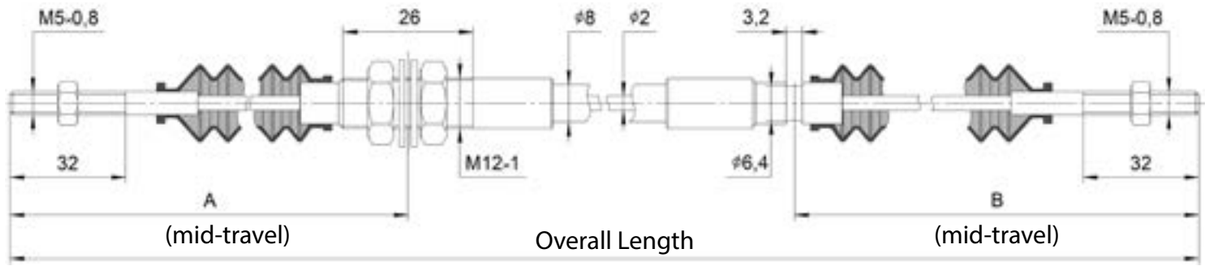
Part number



Push-pull cable



Tension cable



SPECIFICATION

Travel	Bulkhead end		Clamp end		Operating loads	
inch (mm)	A, mm	B, mm	C, mm	D, mm	push, kg (N)	pull, kg (N)
1 (25,4)	76	113	59	95	36,3 (356)	54,4 (534)
2 (50,8)	102	151	84	133	36,3 (356)	54,4 (534)
3 (76,2)	127	189	110	172	31,7 (311)	54,4 (534)
4 (101,6)	152	227	135	210	27,2 (267)	54,4 (534)
5 (127,0)	178	265	163	248	20,4 (200)	54,4 (534)
6 (152,4)	203	303	186	286	15,9 (156)	54,4 (534)
7 (177,8)	229	341	211	324	11,4 (111)	54,4 (534)

SPECIFICATION

Travel	Bulkhead end	Clamp end	Operating loads	
inch (mm)	A, mm	B, mm	push, kg (N)	pull, kg (N)
1 (25,4)	113	95	-	54,4 (534)
2 (50,8)	151	133	-	54,4 (534)
3 (76,2)	189	172	-	54,4 (534)
4 (101,6)	227	210	-	54,4 (534)
5 (127,0)	265	248	-	54,4 (534)

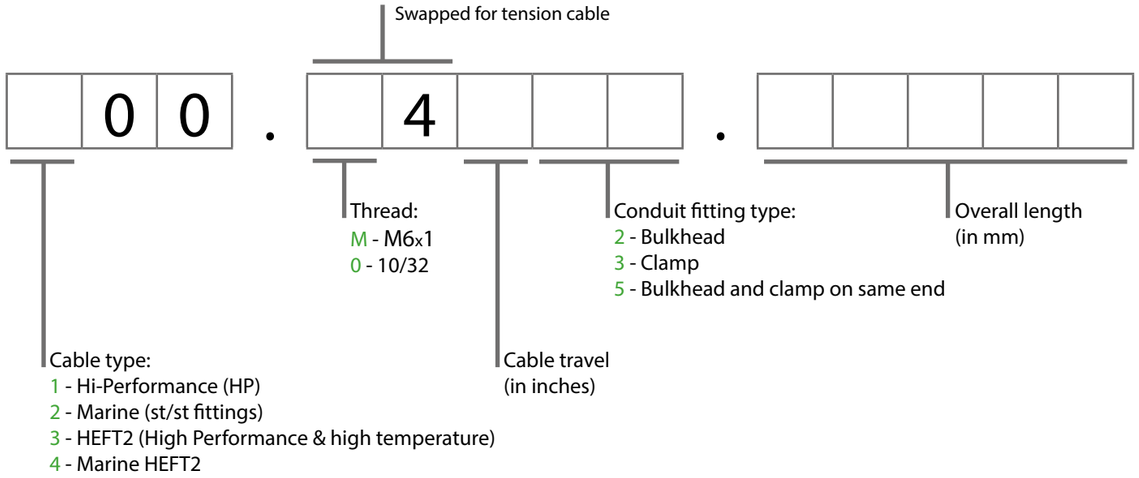
Example: 100.M3323.01100 - push-pull cable with HP core, with M5x0,8 thread on rod ends, with 3 inches travel, with one bulkhead end and one clamp end, length 1100 mm.
100.3M323.01100 - tension cable with the same parameters.

Control cables

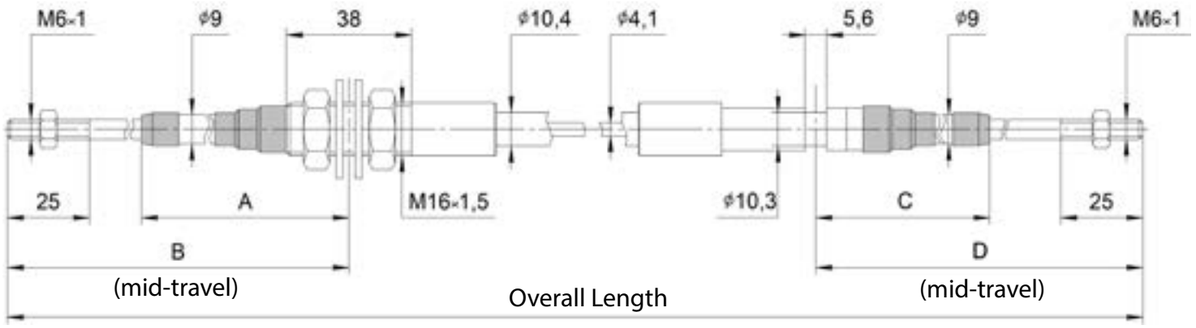
Series 4

- HP core (HP)
- Rod thread M6x1 (or 1/4-28 UNF)
- 127 mm (5") bend radii
- Low backlash
- High efficiency
- Temperature Range:
  -54 - +107°C Std.
  -54 - +149°C HEFT2

Part number



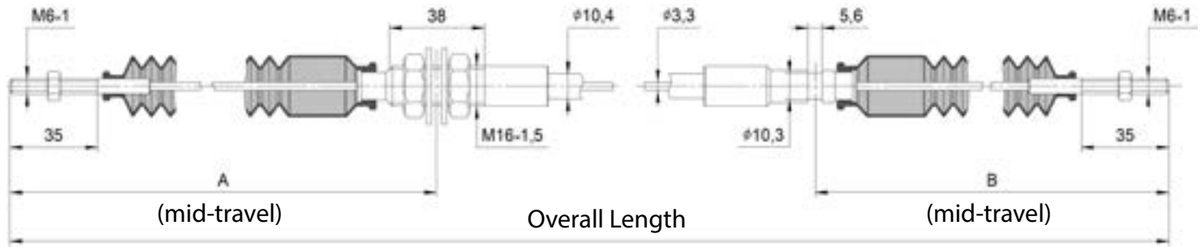
Push-pull cable



SPECIFICATION

Travel	Bulkhead end		Clamp end		Operating loads	
inch (mm)	A, mm	B, mm	C, mm	D, mm	push, kg (N)	pull, kg (N)
1 (25,4)	80	119	64	103	67,9 (667)	104,3 (1023)
2 (50,8)	105	157	89	141	67,9 (667)	104,3 (1023)
3 (76,2)	130	195	114	179	56,7 (556)	104,3 (1023)
4 (101,6)	156	233	140	217	45,4 (445)	104,3 (1023)
5 (127,0)	181	272	165	256	34,0 (334)	104,3 (1023)
6 (152,4)	207	310	191	294	24,9 (245)	104,3 (1023)
7 (177,8)	232	348	216	332	20,4 (200)	104,3 (1023)

Tension cable



SPECIFICATION

Travel	Bulkhead end	Clamp end	Operating loads	
inch (mm)	A, mm	B, mm	push, kg (N)	pull, kg (N)
1 (25,4)	119	103	-	104,3 (1023)
2 (50,8)	157	141	-	104,3 (1023)
3 (76,2)	195	179	-	104,3 (1023)
4 (101,6)	233	217	-	104,3 (1023)
5 (127,0)	272	256	-	104,3 (1023)

Example: 100.M4223.01100 - push-pull cable with HP core, with M6x1 thread on rod ends, with 2 inches travel, with one bulkhead end and one clamp end, length 1100 mm.
200.4M223.01100 - tension cable with the same parameters, but with st/st fittings (marine cable).

Control cables

Series 4

- HP core (HP)
- Rod thread M6x1 (or 1/4-28 UNF)
- 127 mm (5") bend radii
- Low backlash
- High efficiency
- Temperature Range:
  -54 - +107°C Std.
  -54 - +149°C HEFT2

Part number*

	0	0	.	M	4		H		.					

Cable type:
1 - Hi-Performance (HP)
3 - HEFT2 (High Performance & high temperature)

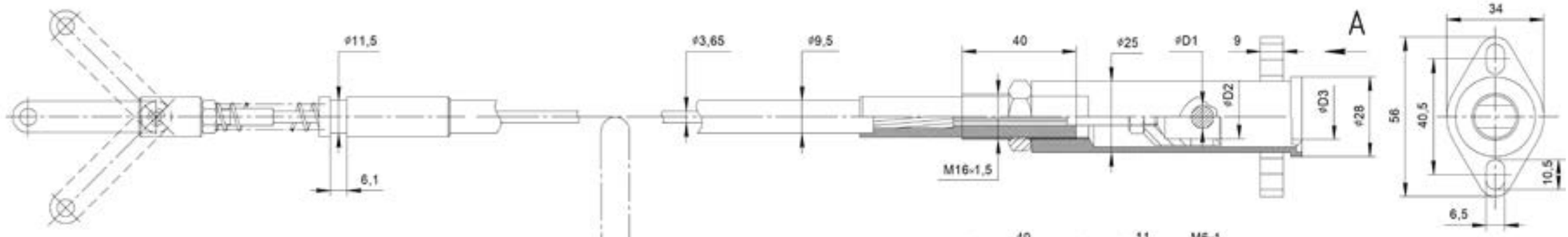
Cable travel:
(35) - for H2, H3
(40) - for H4, H5

Connection type:
2 - H2
3 - H3
4 - H4
5 - H5

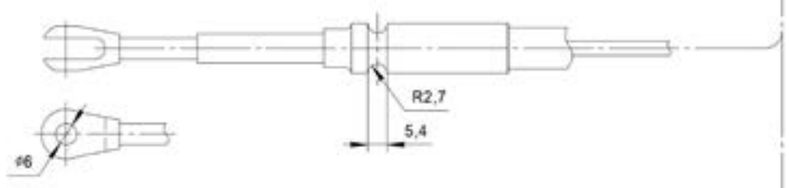
Overall length (in mm)

Control cables for hydrodistributors

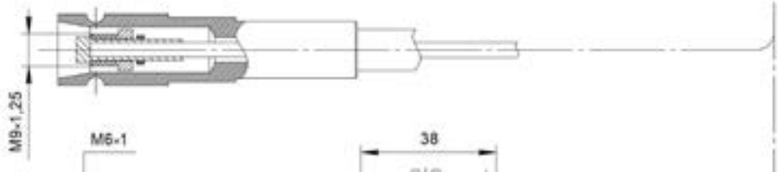
H2



H3



H4



H5

* Part number for cable w/o parts for connection to hydrodistributor

Standard sizes of parts for connection to hydrodistributor:

D1	6 mm 8 mm
D2	14,8 mm 15,4 mm 17,0 mm
D3	16,5 mm (stepped ring) 18,2 mm (straight ring)

Example: 100.M4(35)H3.01100 - cable with connection H3, with 35 mm travel, length 1100 мм.
100.M4(40)H5.02000 - cable with connection H5, with 40 mm travel, length 2000 мм.

Control cables

Series 4

- HP core (HP)
- Rod thread M6x1 (or 1/4-28 UNF)
- 127 mm (5") bend radii
- Low backlash
- High efficiency
- Temperature Range:
  -54 - +107°C Std.
  -54 - +149°C HEFT2

Part number*

			.						.					
	0	0	.	M	4		H		.					

Cable type:
1 - Hi-Performance (HP)
3 - HEFT2 (High Performance & high temperature)

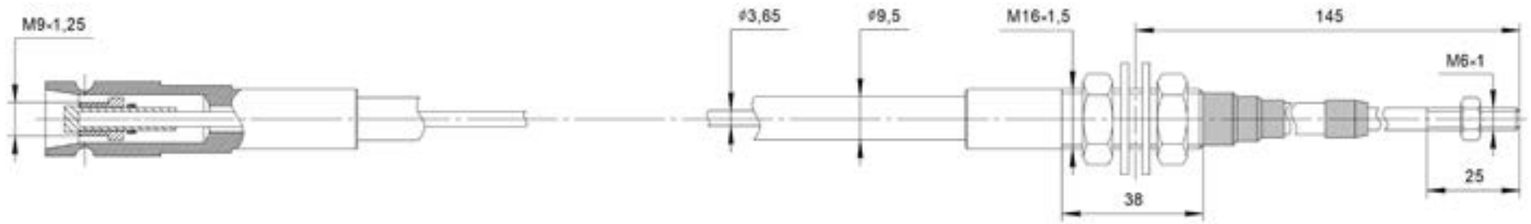
Cable travel:
(35) - for H7, H8
(40) - for H6

Connection type:
6 - H6
7 - H7
8 - H8

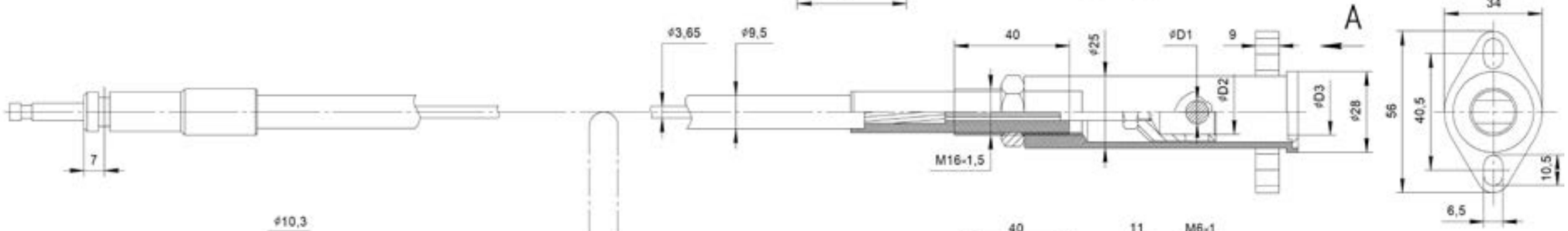
Overall length (in mm)

Control cables for hydrodistributors

H6



H7



H8

* Part number for cable w/o parts for connection to hydrodistributor

Standard sizes of parts for connection to hydrodistributor:

D1	6 mm
	8 mm
D2	14,8 mm
	15,4 mm
	17,0 mm
D3	16,5 mm (stepped ring)
	18,2 mm (straight ring)

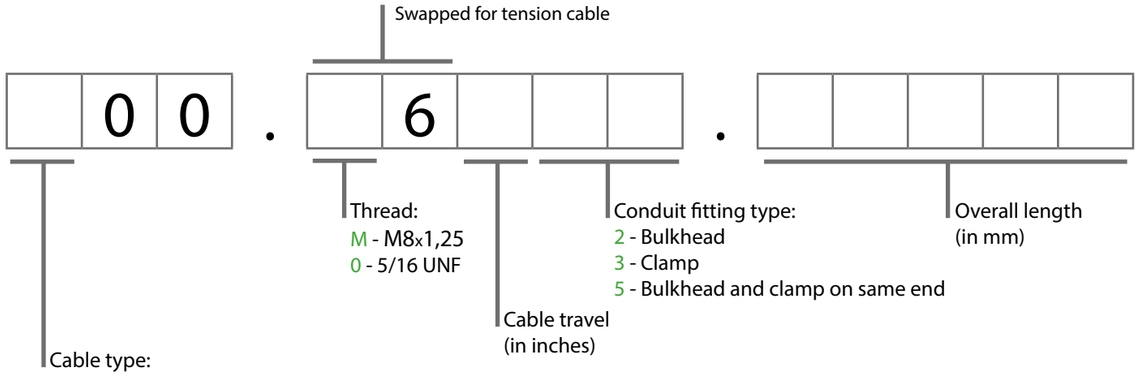
Example: 100.M4(35)H8.01100 - cable with connection H8, with 35 mm travel, length 1100 мм.
100.M4(40)H6.02000 - cable with connection H6, with 40 mm travel, length 2000 мм.

Control cables

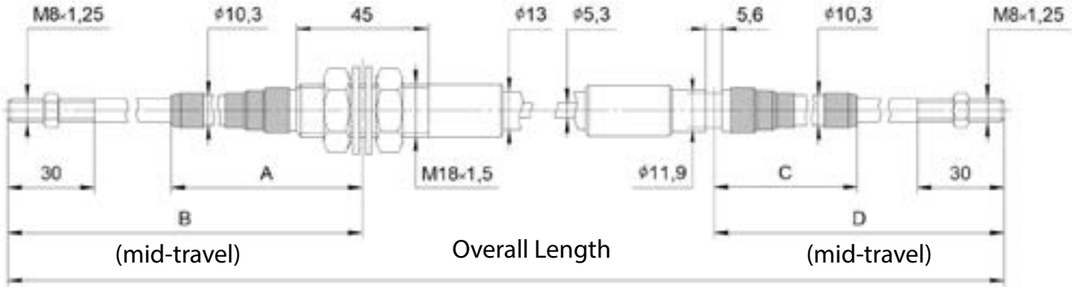
Series 6

- HP core (HP)
- Rod thread M8x1,25 (or 5/16-24 UNF)
- 178 mm (7") bend radii
- Low backlash
- High efficiency
- Temperature Range:
  -54 - +107°C Std.
  -54 - +149°C HEFT2

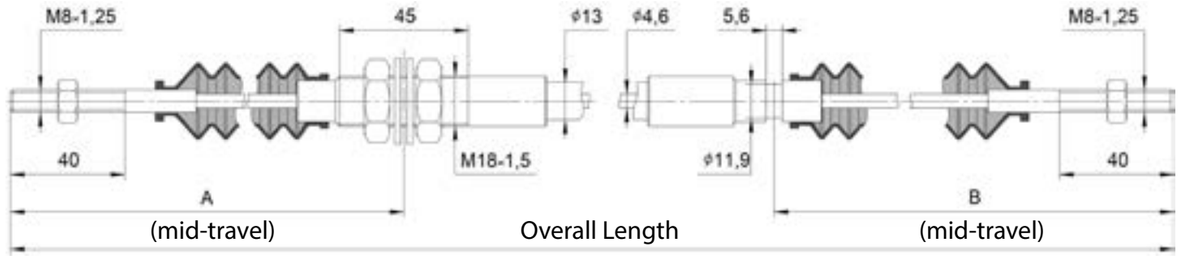
Part number



Push-pull cable



Tension cable



SPECIFICATION

Travel	Bulkhead end		Clamp end		Operating loads	
inch (mm)	A, mm	B, mm	C, mm	D, mm	push, kg (N)	pull, kg (N)
1 (25,4)	83	127	65	110	113,5 (1112)	181,4 (1779)
2 (50,8)	108	165	90	148	113,5 (1112)	181,4 (1779)
3 (76,2)	133	203	116	186	95,3 (935)	181,4 (1779)
4 (101,6)	159	241	141	224	77,1 (757)	181,4 (1779)
5 (127,0)	184	279	167	262	58,9 (579)	181,4 (1779)
6 (152,4)	210	318	192	300	40,8 (401)	181,4 (1779)
7 (177,8)	235	356	217	338	27,2 (267)	181,4 (1779)

SPECIFICATION

Travel	Bulkhead end	Clamp end	Operating loads	
inch (mm)	A, mm	B, mm	push, kg (N)	pull, kg (N)
1 (25,4)	130	113	-	181,4 (1779)
2 (50,8)	168	151	-	181,4 (1779)
3 (76,2)	207	189	-	181,4 (1779)
4 (101,6)	245	227	-	181,4 (1779)
5 (127,0)	283	265	-	181,4 (1779)

Example: 100.M6123.01100 - push-pull cable with HP core, with M8x1,25 thread on rod ends, with 1 inch travel, with one bulkhead end and one clamp end, length 1100 mm.
100.6M123.01100 - tension cable with the same parameters.

Control cables

Series 8

- HP core (HP)
- Rod thread M10x1,5 (or3/8-24 UNF)
- 254 мм (10") bend radii
- Low backlash

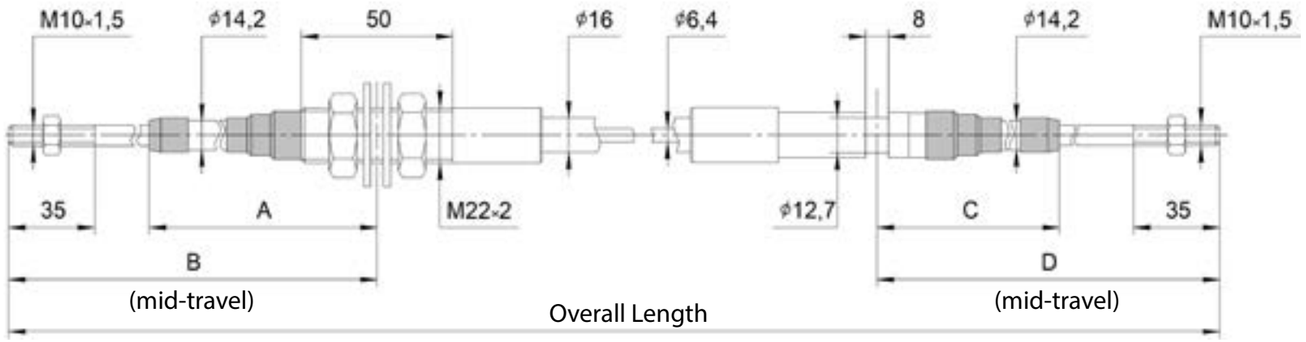
- High efficiency
- Temperature Range:
  -54 - +107°C Std.
  -54 - +149°C HEFT2

Part number

0	0		.		8				.					

- Тип троса:
  3 - Standard
  5 - With grease nipple
- Cable travel (in inches)
- Thread:
  M - M10x1,5
  0 - 3/8 UNF
- Conduit fitting type:
  2 - Bulkhead
  3 - Clamp
- Overall length (in mm)

Push-pull cable



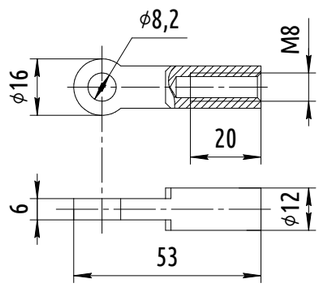
SPECIFICATION

Travel	Bulkhead end		Clamp end		Operating loads	
inch (mm)	A, mm	B, mm	C, mm	D, mm	push, kg (N)	pull, kg (N)
1 (25,4)	94	141	81	129	317,5 (3114)	453,6 (4449)
2 (50,8)	119	179	106	167	317,5 (3114)	453,6 (4449)
3 (76,2)	145	217	132	205	272,2 (2669)	453,6 (4449)
4 (101,6)	170	256	157	243	226,7 (2224)	453,6 (4449)
5 (127,0)	195	294	183	281	181,4 (1779)	453,6 (4449)
6 (152,4)	221	332	208	319	124,7 (1223)	453,6 (4449)
7 (177,8)	246	370	233	357	68,0 (668)	453,6 (4449)

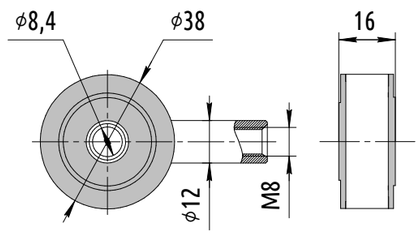
Example: 003.M8123.01100 - push-pull cable with standard core, with M10x1,5 thread on rod ends, with 1 inch travel, with one bulkhead end and one clamp end, length 1100 mm.

Hardware

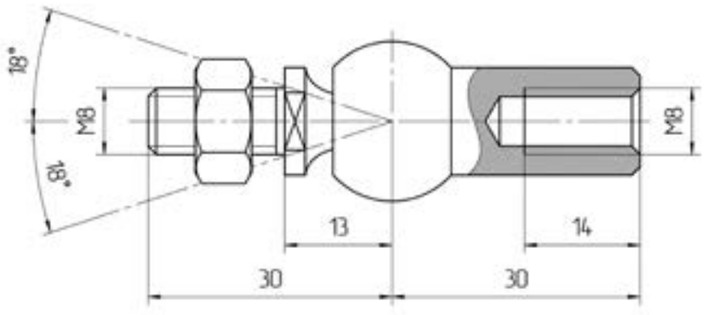
Fitting DGTF6-K2



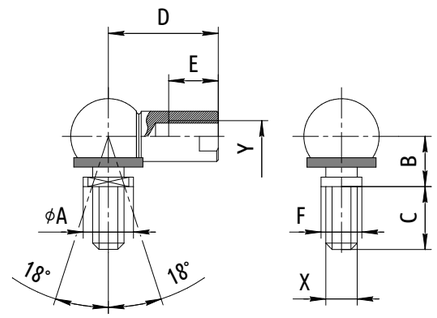
Damper DGTF6-C6



Ball joint BJ03-M8-M8

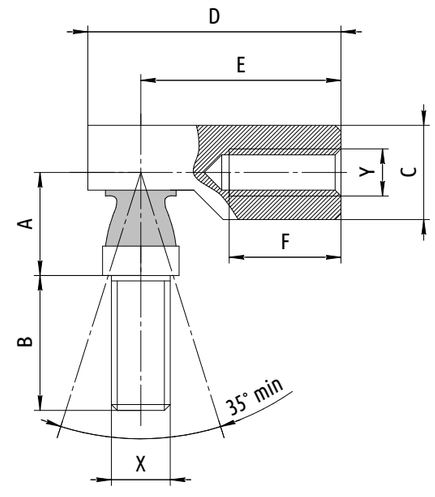


Ball joint



Part number	X	Y	A	B	C	D	E	F
BJ01-M5-M5	M5x0,8	M5x0,8	8	9	10	22	10	7
BJ01-M6-M6	M6x1,0	M6x1,0	10	11	12,5	25	11,5	8
BJ01-M8-M6	M8x1,25	M6x1,0	13	13	16,5	30	14	11
BJ01-M8-M8	M8x1,25	M8x1,25	13	13	16,5	30	14	11
BJ01-M10-M8	M10x1,5	M8x1,25	16	16	20	35	15,5	13
BJ01-M10-M10	M10x1,5	M10x1,5	16	16	20	35	15,5	13

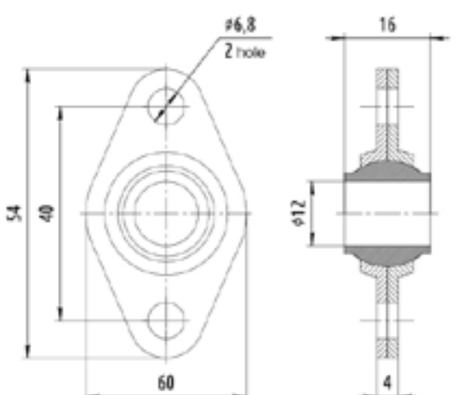
Ball joint



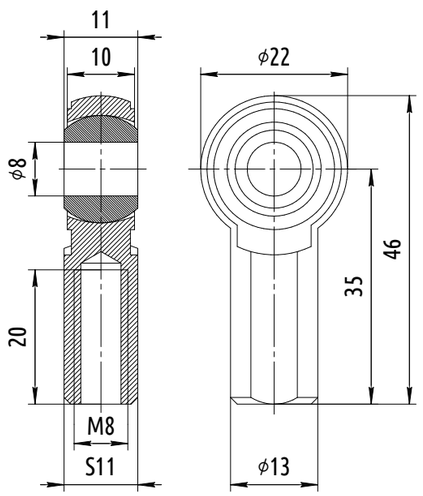
Part number	X	Y	A	B	C	D	E	F
BJ02-M10-M8-43	M10x1,5	M8x1,25	18	22	16	43	35	19
BJ02-M10-M8	M10x1,5	M8x1,25	18	22	16	59	50	25

Hardware

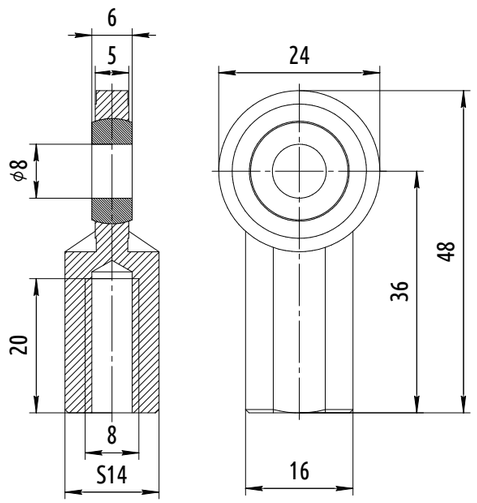
Flanged bearing FB01-12



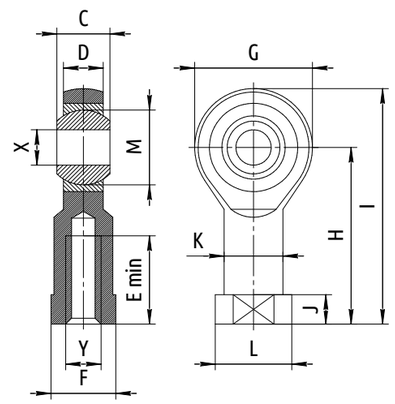
Fitting RE03-M8



Fitting RE04-M8

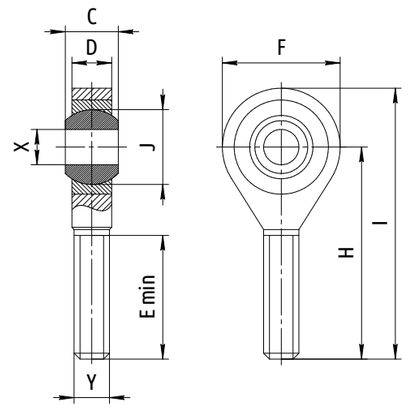


Fitting



Part number	X	Y	C	D	E	F	G	H	I	J	K	L	M
RE01-M5	5	M5x0,8	8	6	10	9	18	27	36	4	8,5	11	11,11
RE01-M6	6	M6x1,0	9	6,75	12	11	20	30	40	5	10	13	12,70
RE01-M8	8	M8x1,25	12	9	16	14	24	36	48	5	12,5	16	15,88

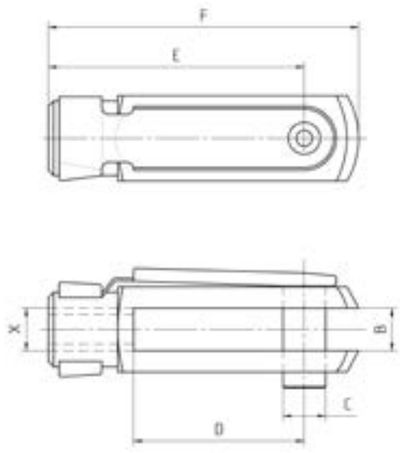
Fitting



Part number	X	Y	C	D	E	F	H	I	J
RE02-M5M	5	M5x0,8	8	6	19	18	33	42	11,11
RE02-M6M	6	M6x1,0	9	6,75	21	20	36	46	12,70
RE02-M8M	8	M8x1,25	12	9	25	24	42	54	15,88

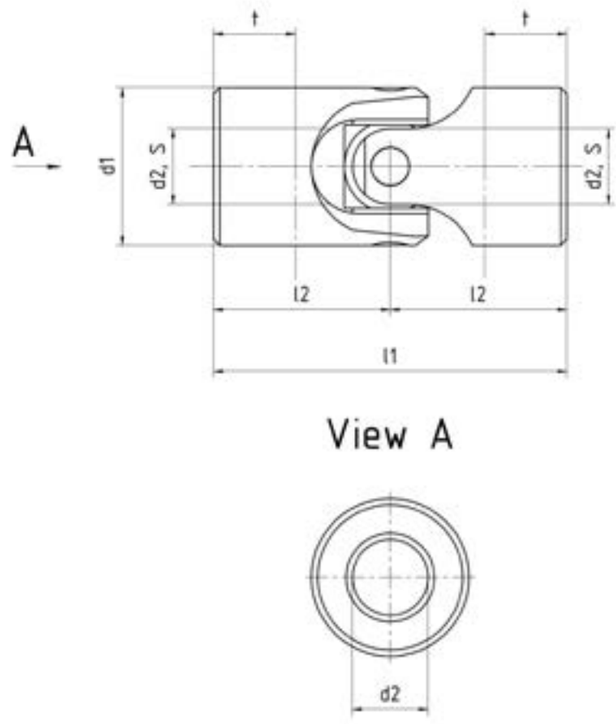
Hardware

Clevis



Part number	X	B	C	D	E	F
CL01-5-M5-10	M5x0,8	5	5	10	20	26
CL01-5-M5	M5x0,8	5	5	20	30	36
CL01-6-M6-12	M6x1,0	6	6	12	24	31
CL01-6-M6	M6x1,0	6	6	24	36	43
CL01-8-M6	M6x1,0	8	8	32	48	58
CL01-8-M8	M8x1,25	8	8	32	48	58

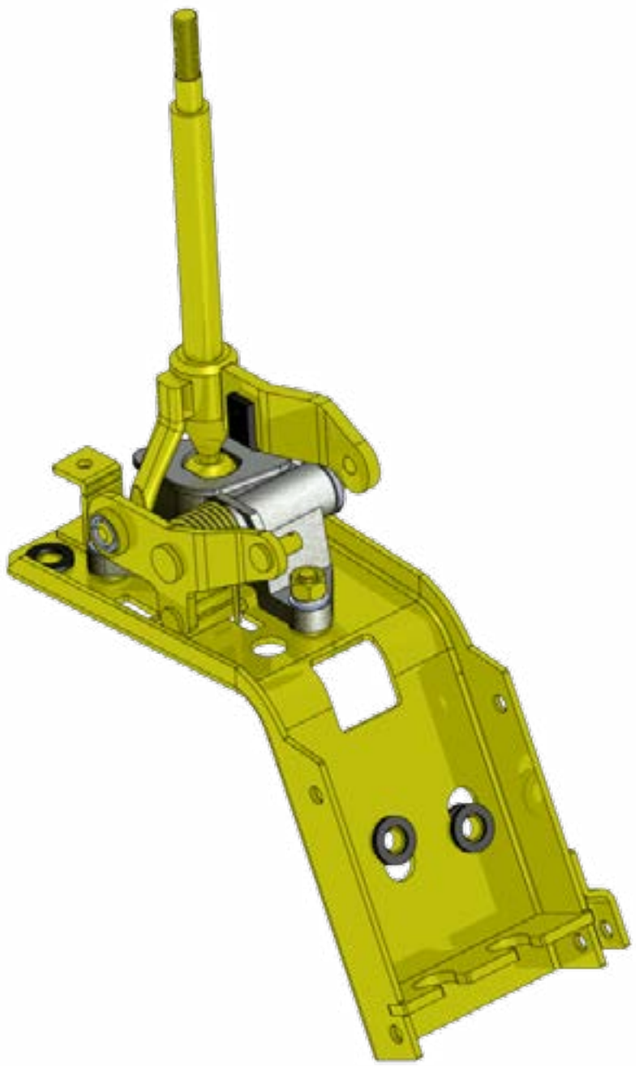
Fitting



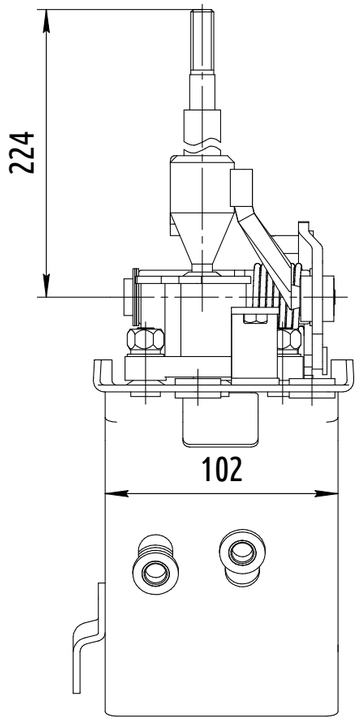
Part number	d1	d2 H7	l1	l2	t+1 max. shaft installation length
DIN808-25-B12-56-EG	25	B12	56	28	13

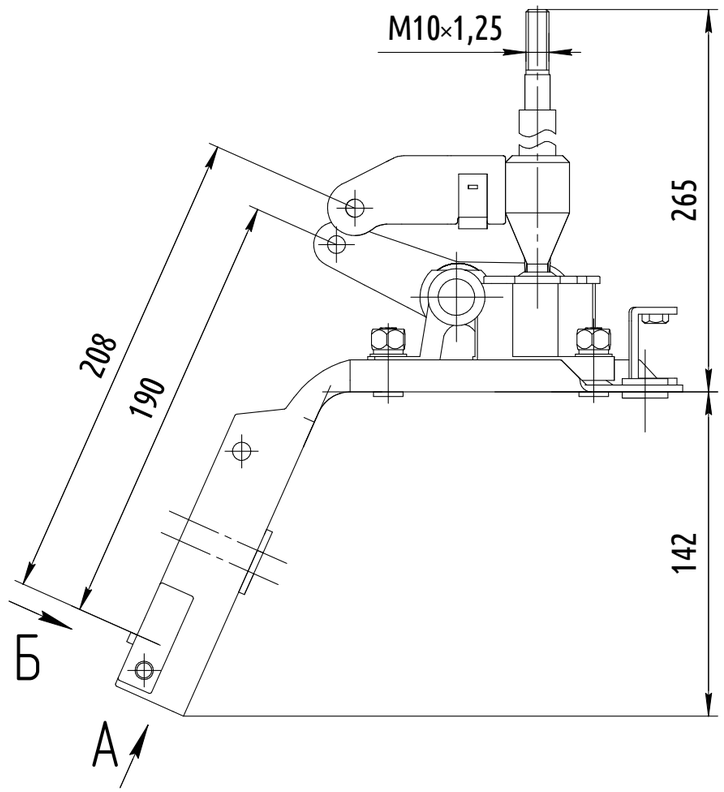
Master units, selectors

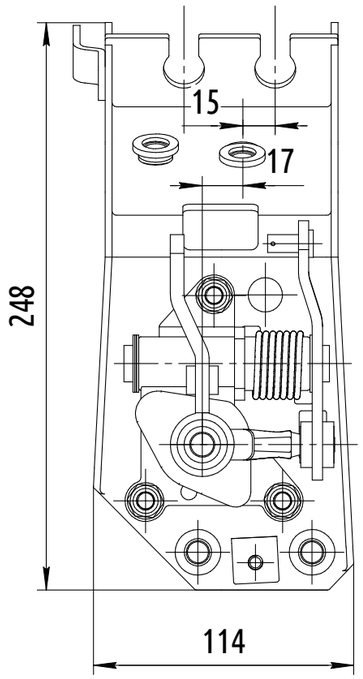
GSC.434

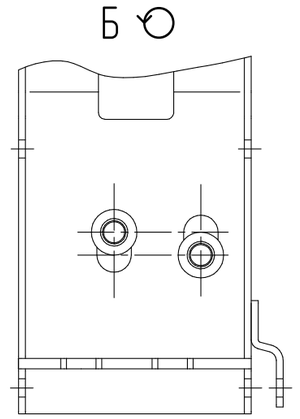


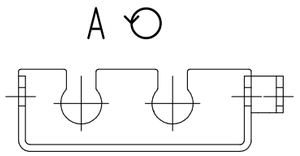
Selection travel - 60 mm
Switch travel - 80 mm





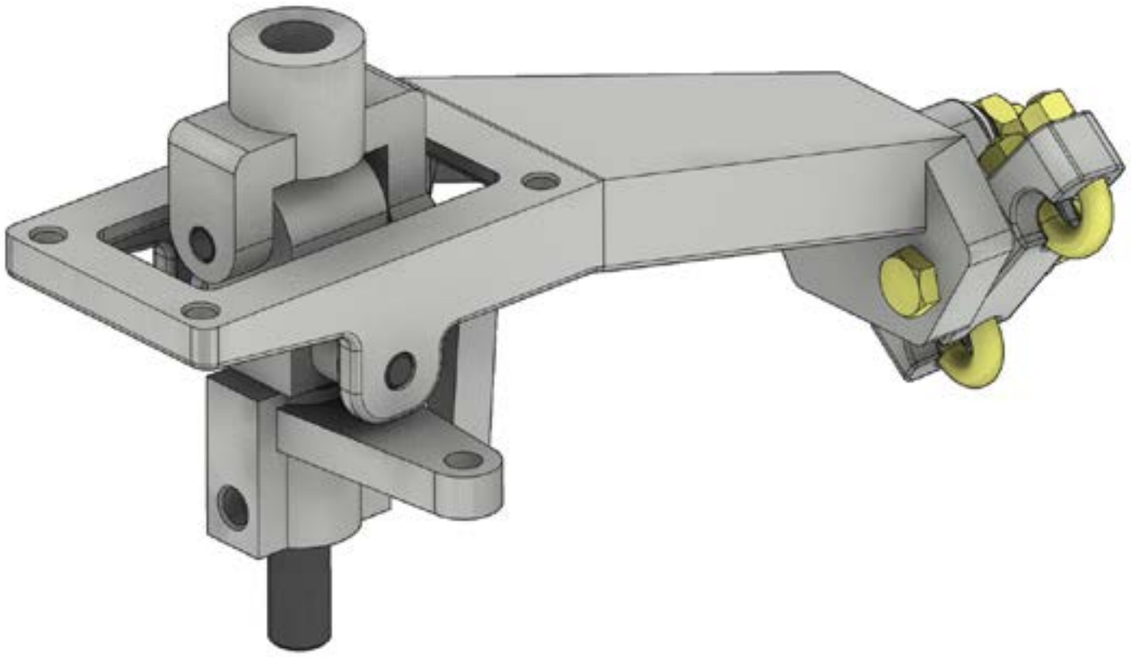


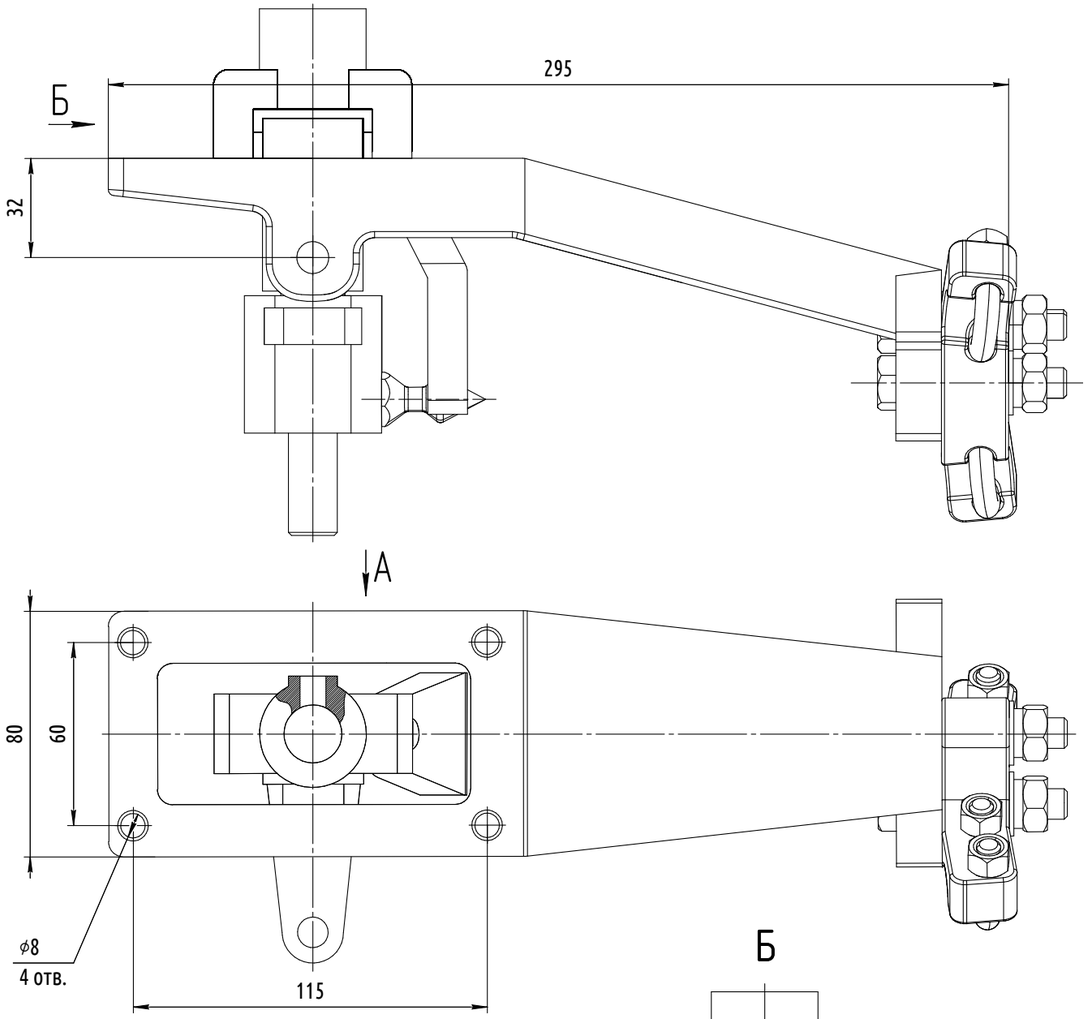


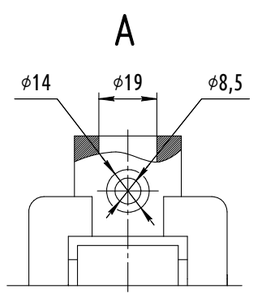


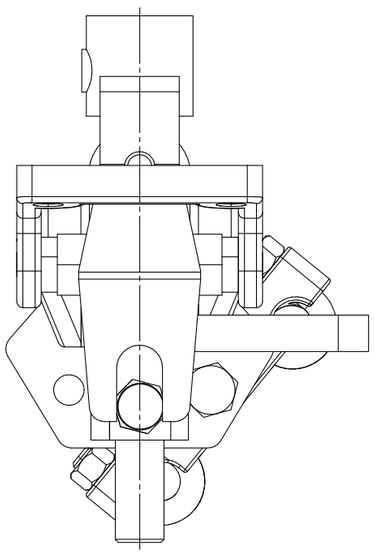
Master units, selectors

GSC-4





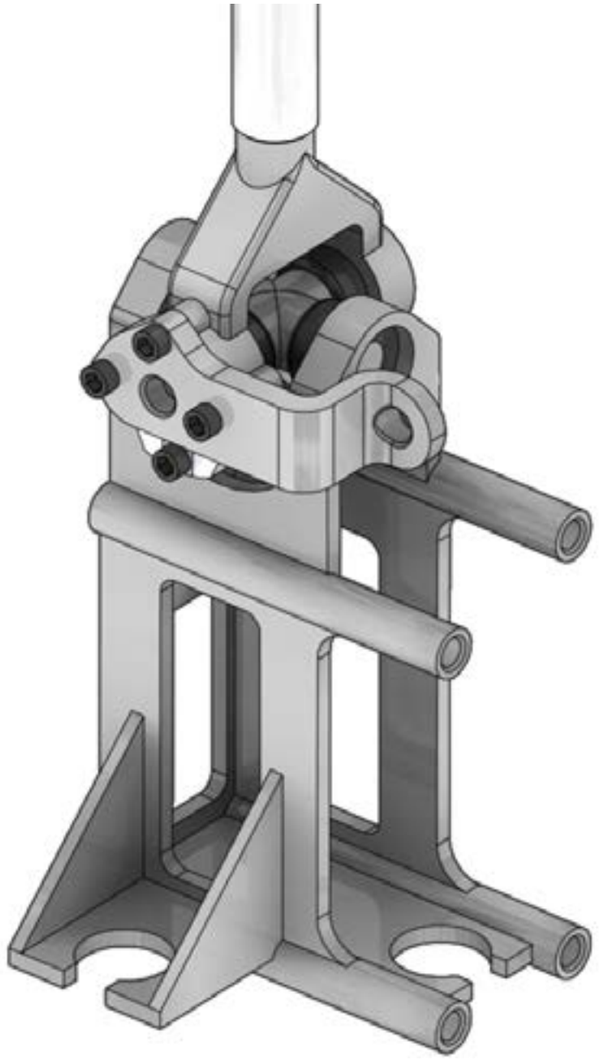




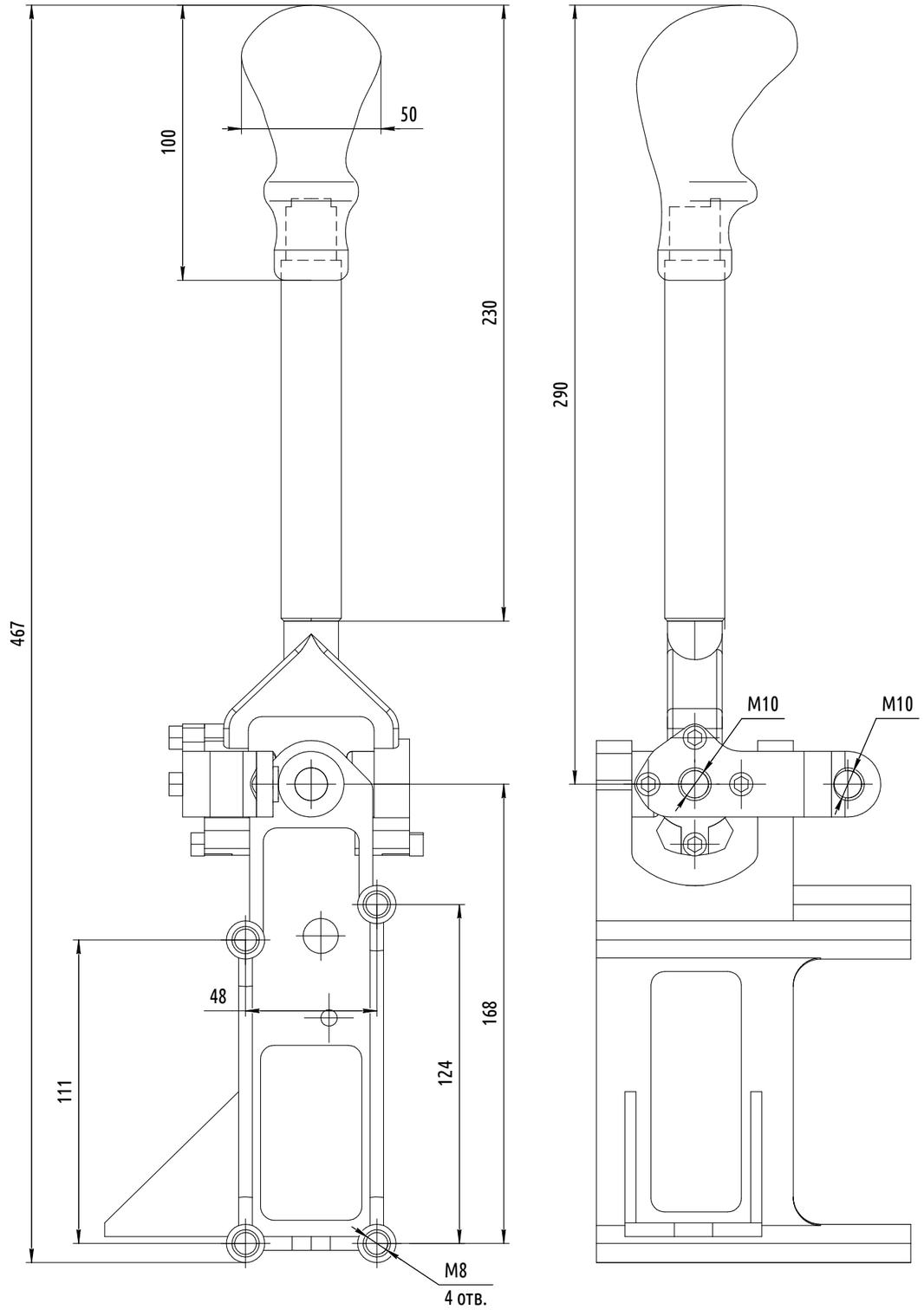
Selection travel - 65 mm
Switch travel - 90 mm

Master units, selectors

GSC-7

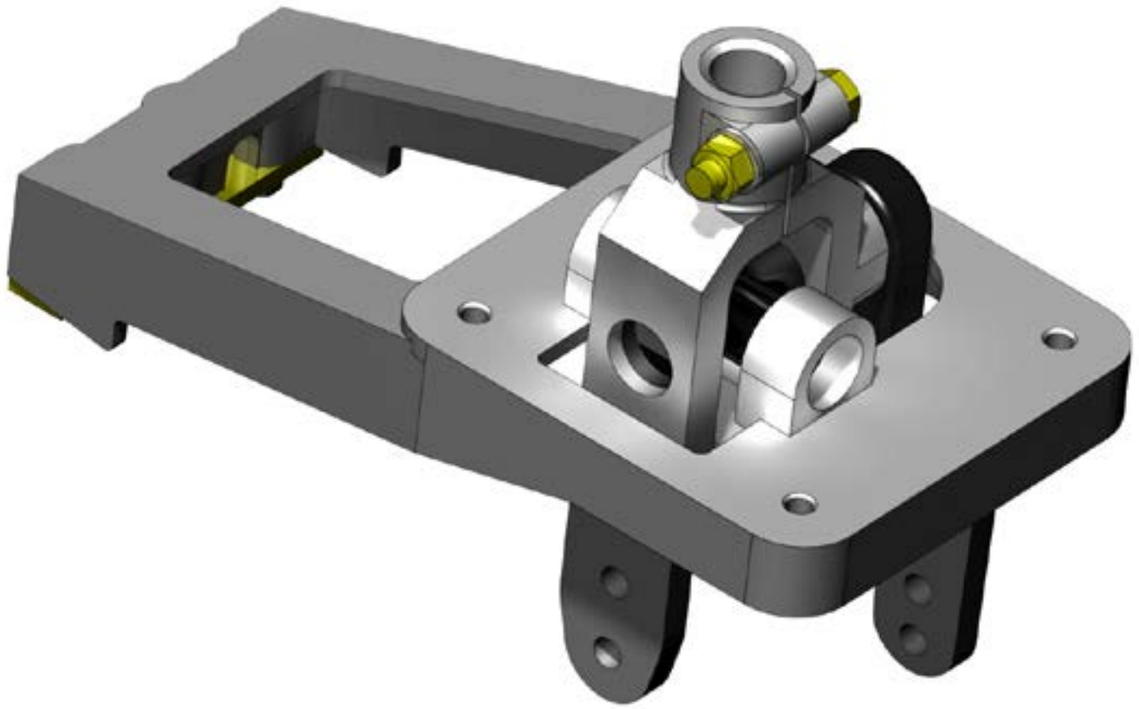


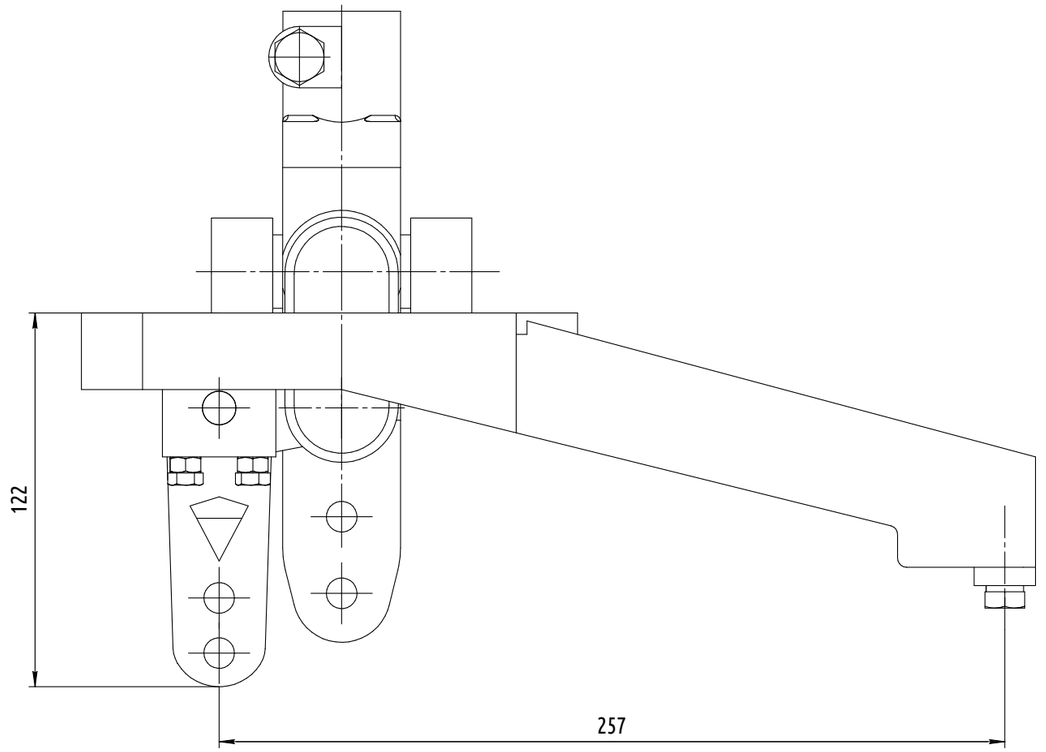
Selection travel - 55 mm
Switch travel - 65 mm

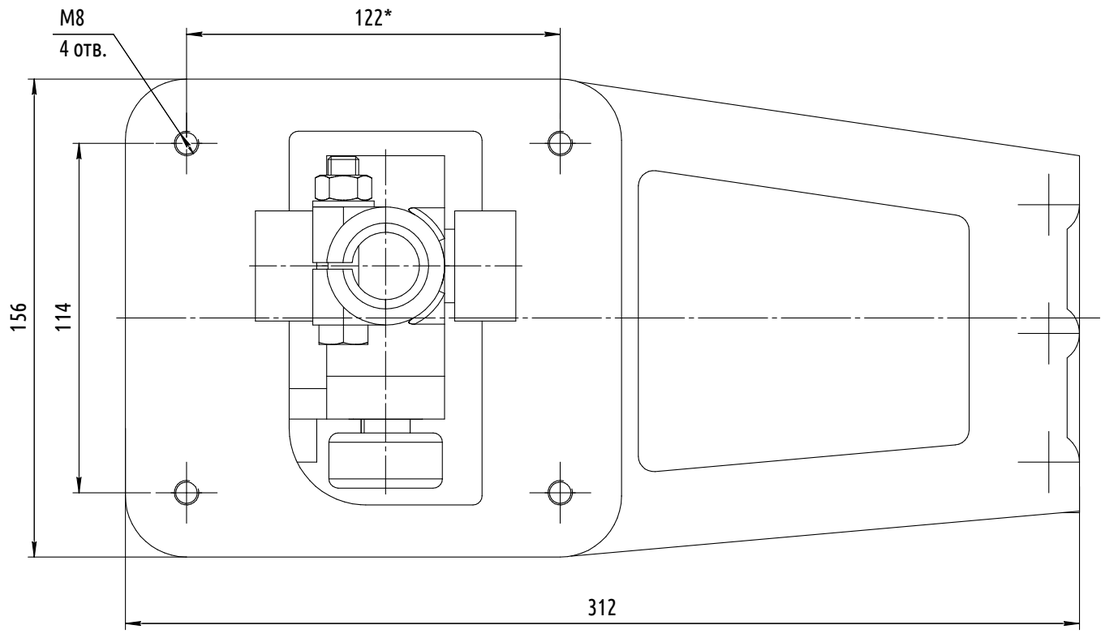


Master units, selectors

GSC-8



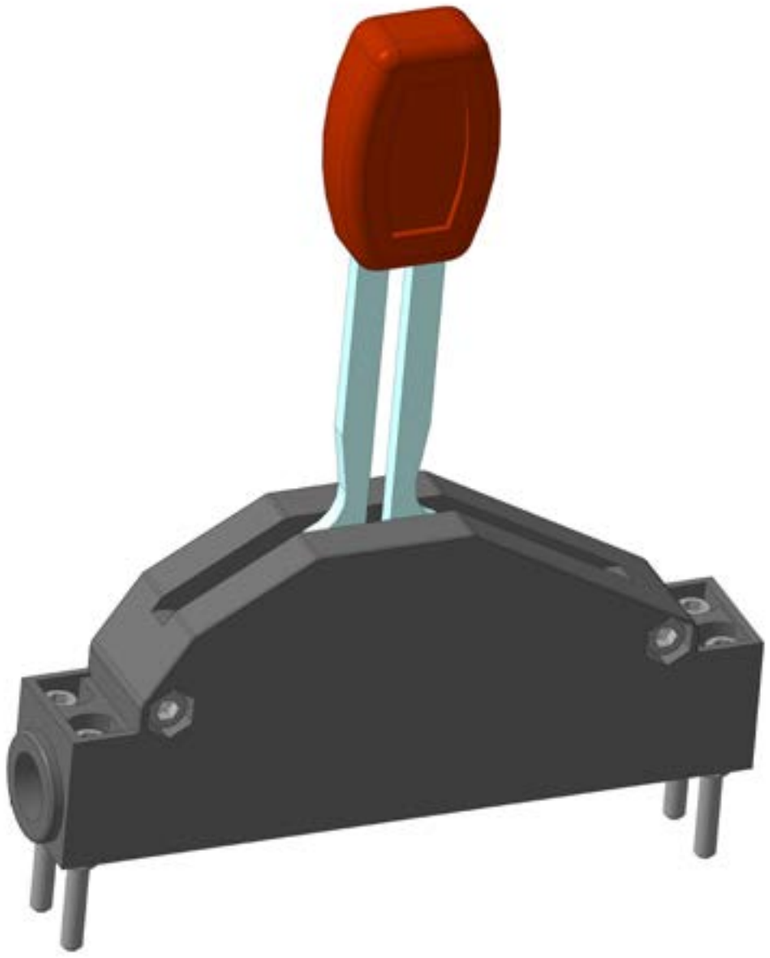


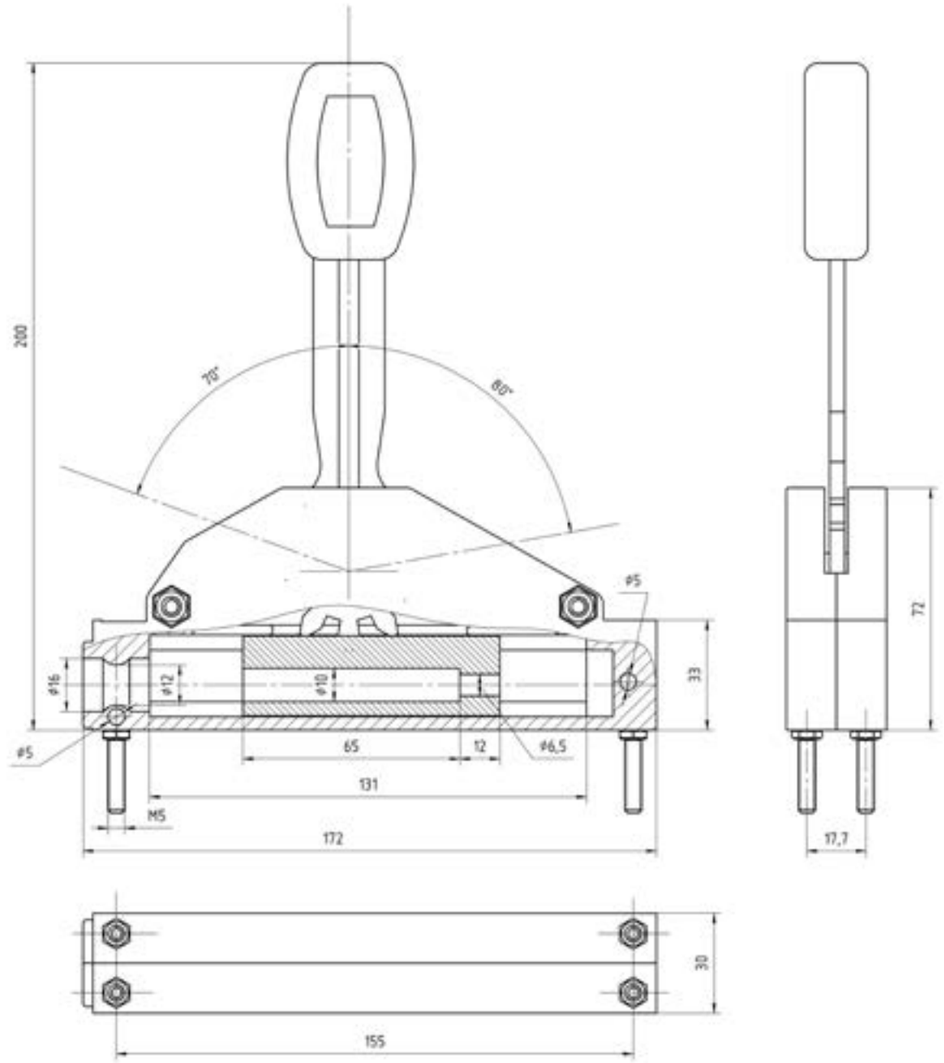


Selection travel - 100 mm
Switch travel - 100 mm

Control levers

EAAX-CLH095-001

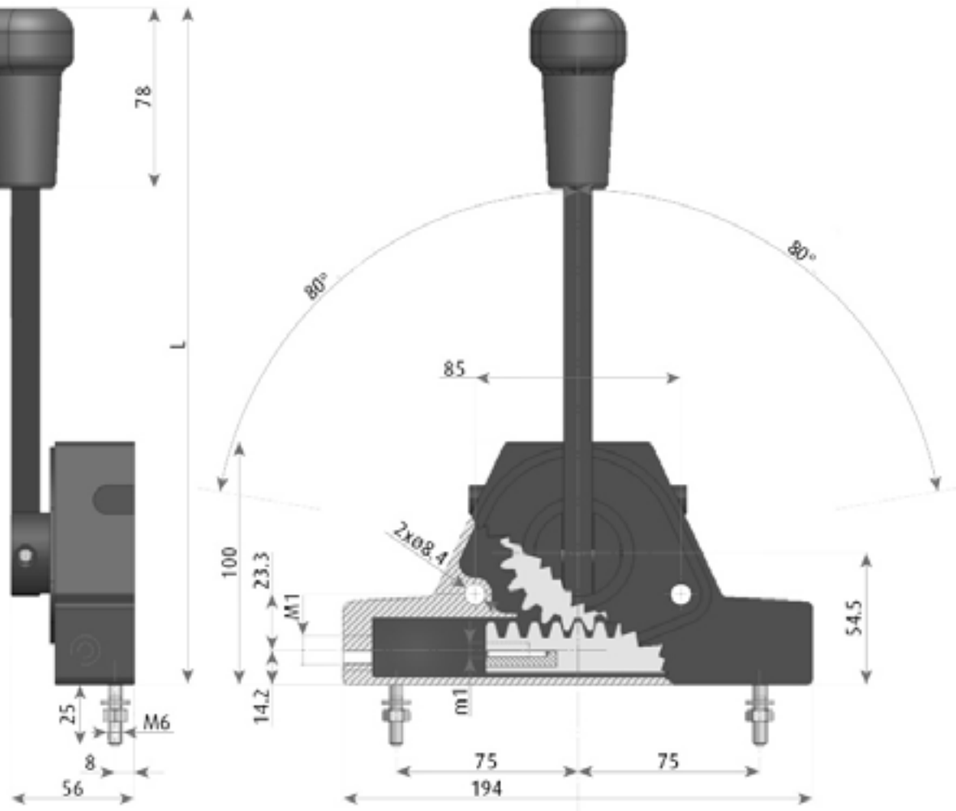




It is possible to connect push-pull cable
Max travel - 50 mm

Control levers

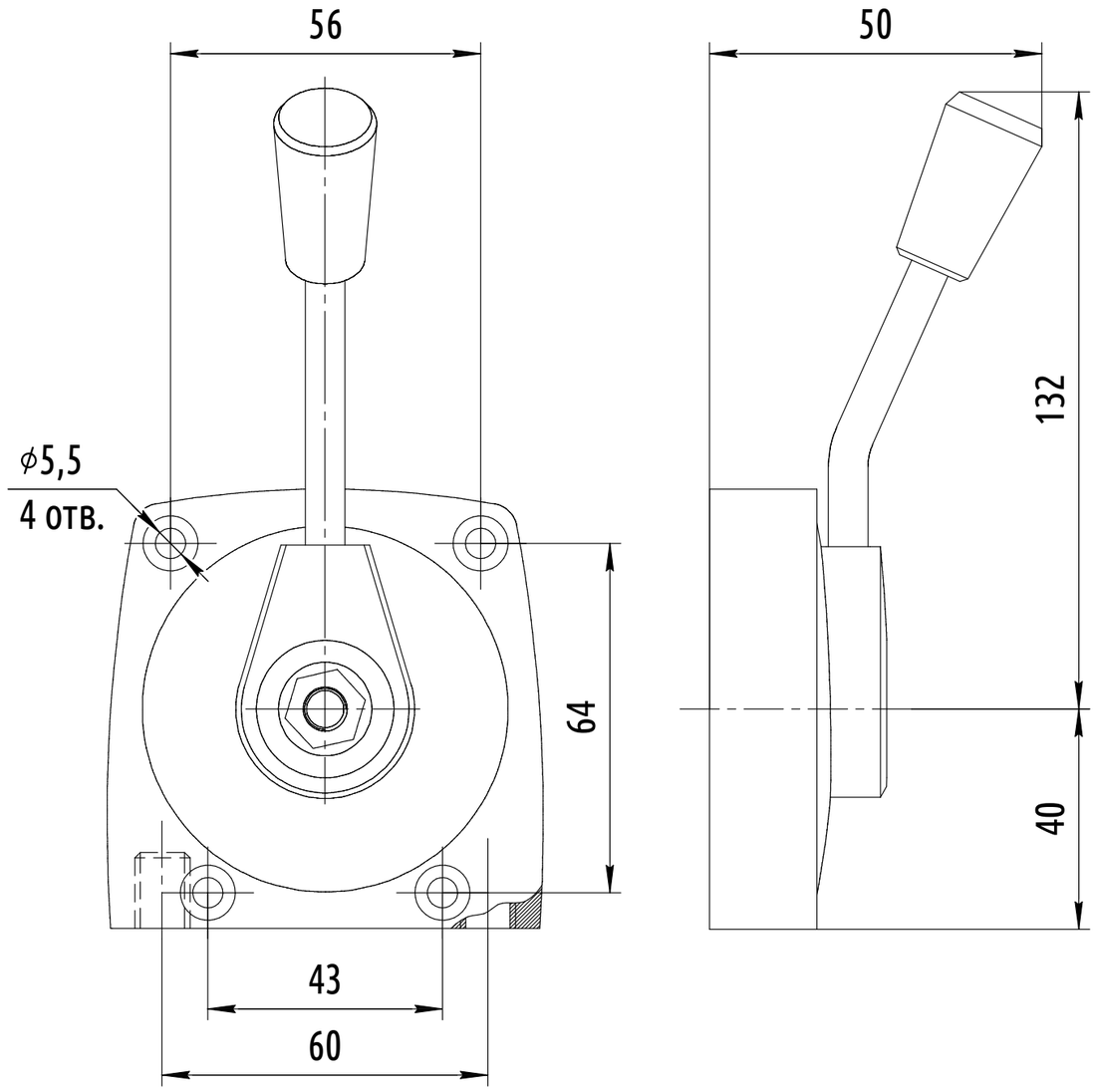
EAAX-CLH95



It is possible to connect push-pull cable
Different mounting positions: either side or top
Maximum cable travel - 85 mm
Maximum working load on the cable - 1000 N
Lever ratio - 7.3:1
Electrical signalling of the lever's position via micro-switch or via inductive sensor

Control levers

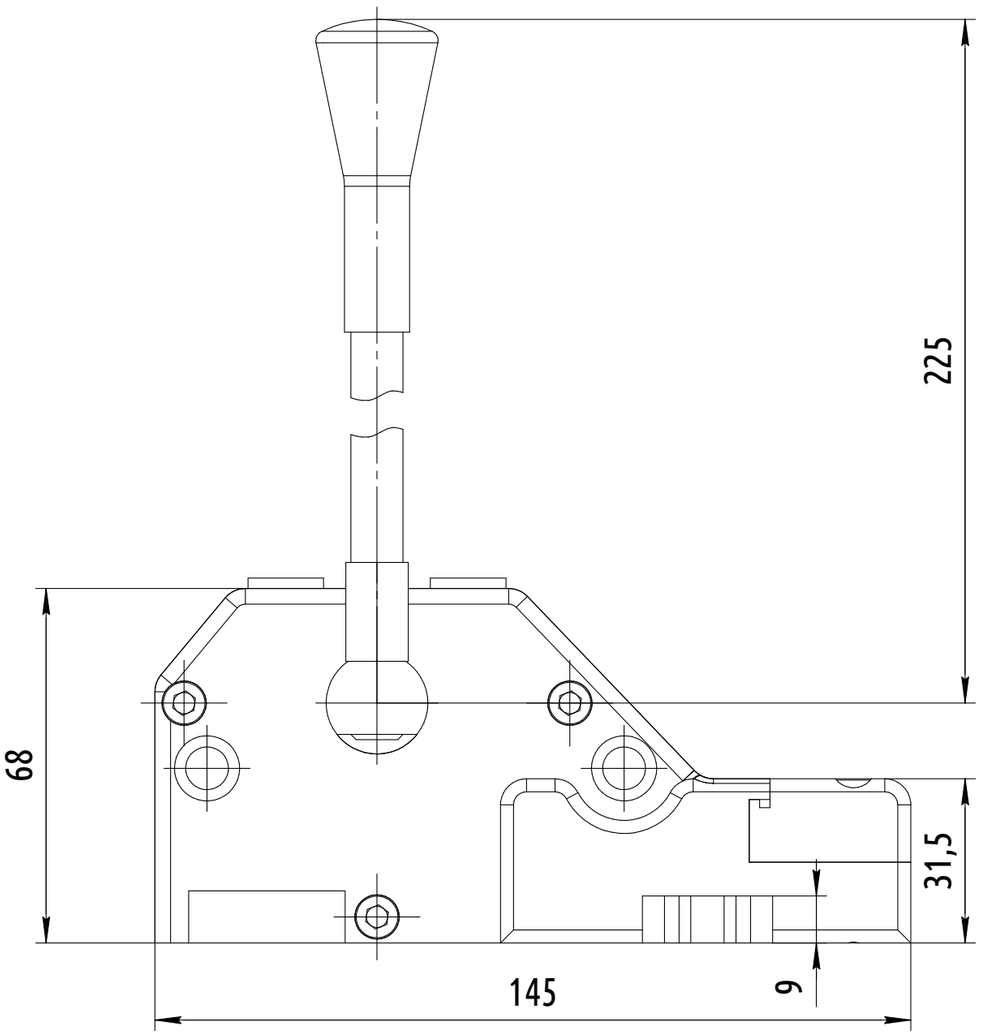
EAAX-CLTH41

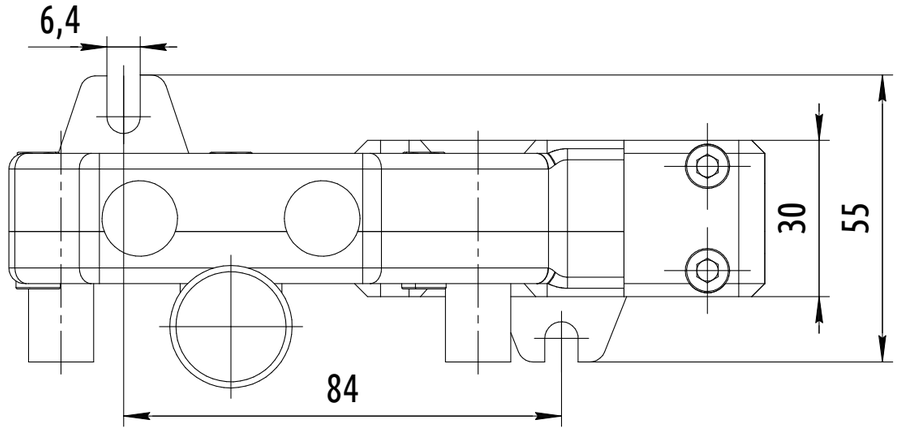


Max travel - 70 mm
Adjustable friction

Control levers

EAAX-CL15

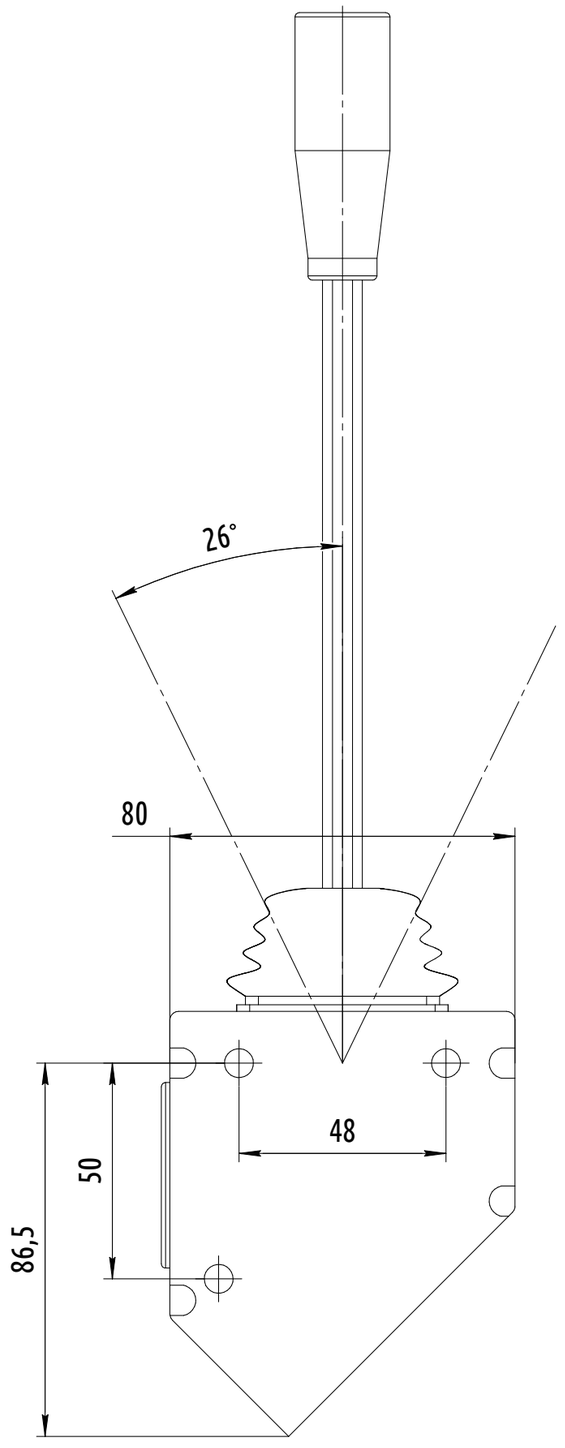


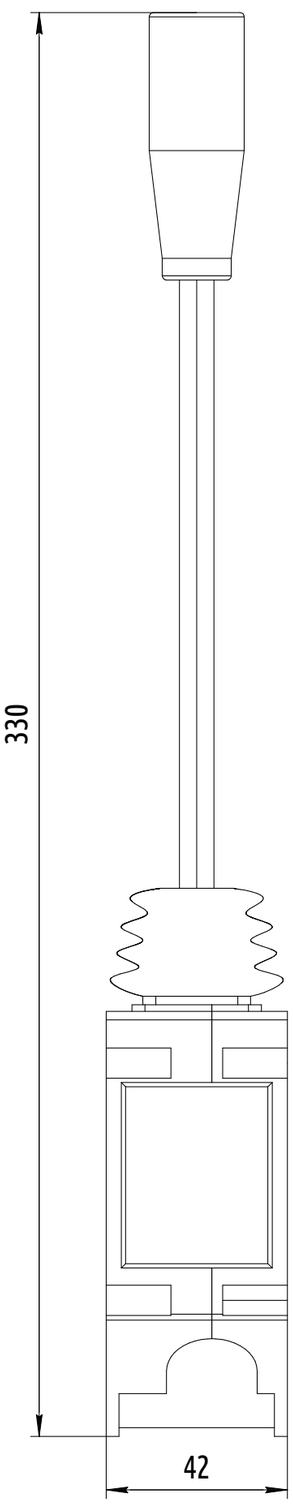


Cable travel - ± 16 mm
Max operating load - 450 H
Cable connecting type - H7
Cable exits at 90 degrees with respect to the lever
Control levers could be mounted side by side in order to have the modular version.

Control levers

EAAX-CL16

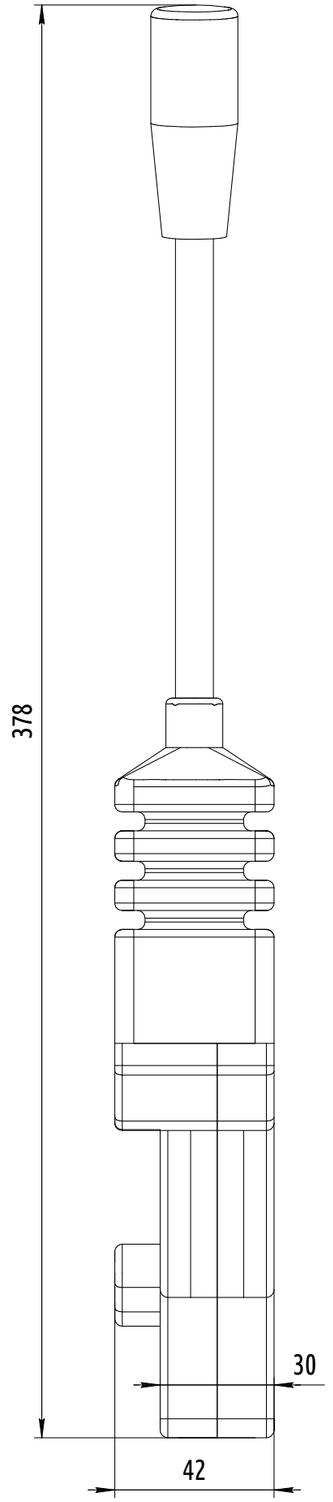


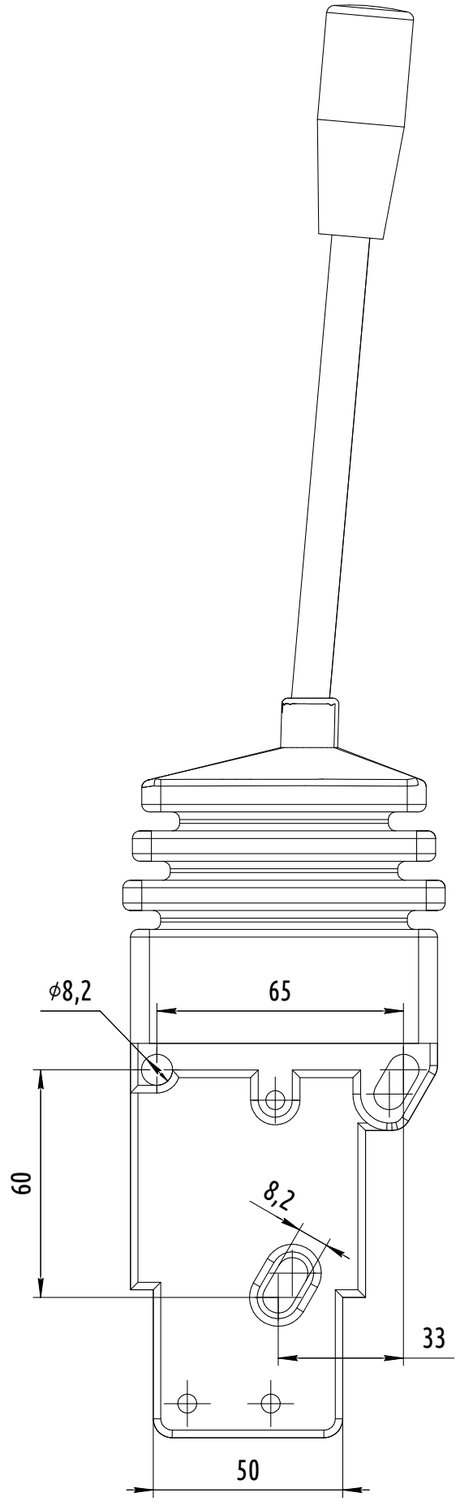


Cable travel - ± 16 mm
Max operating load - 300 H
Cable exits at 45 degrees with respect to the lever
Control levers could be mounted side by side in order to have the modular version.

Control levers

EAAX-CLH

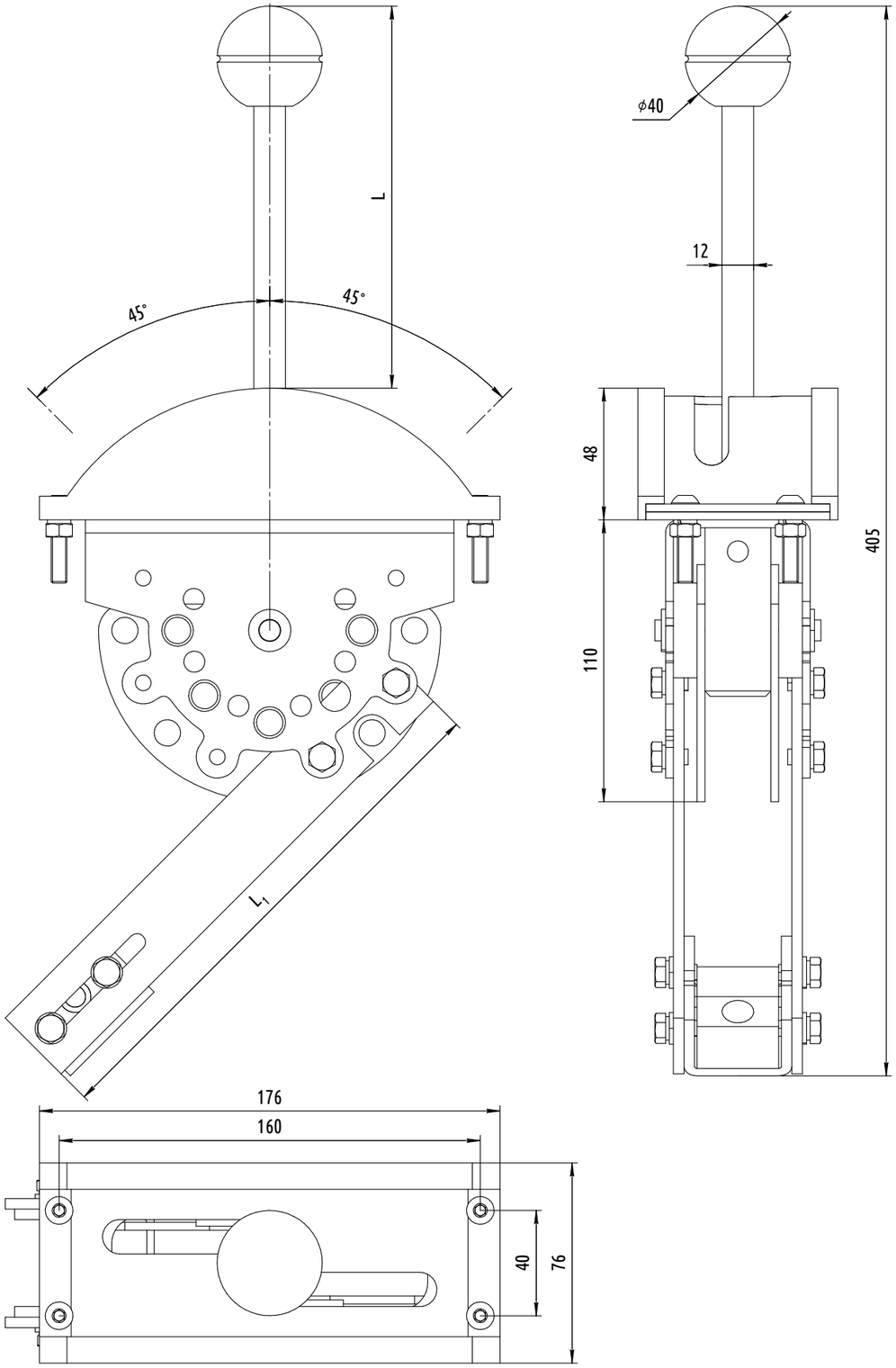




Cable travel - ± 18 mm
Max operating load - 300 H
Cable connecting type - H4
Cable exits at 180 degrees with respect to the lever
Control levers could be mounted side by side in order to have the modular version.

Control levers

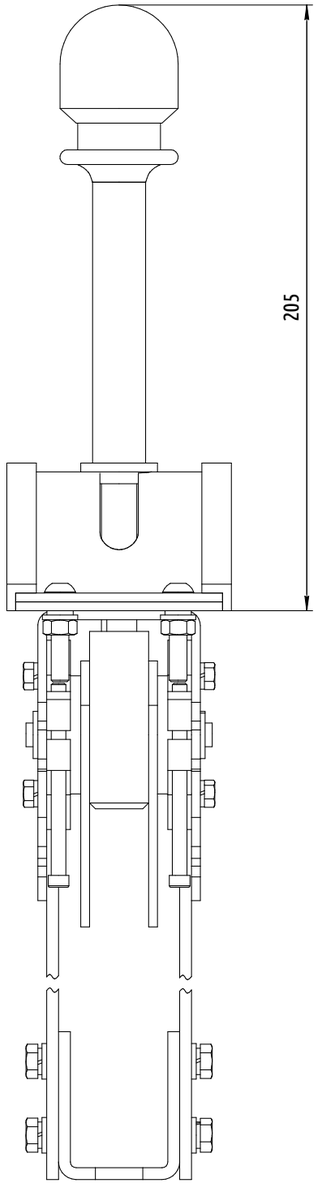
EAAX-CL81

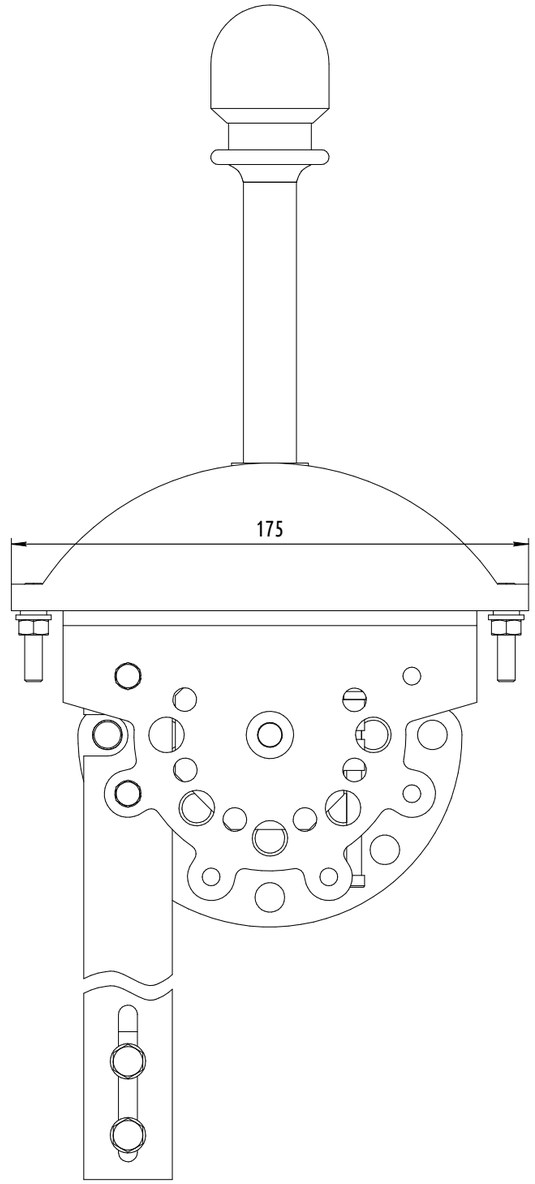


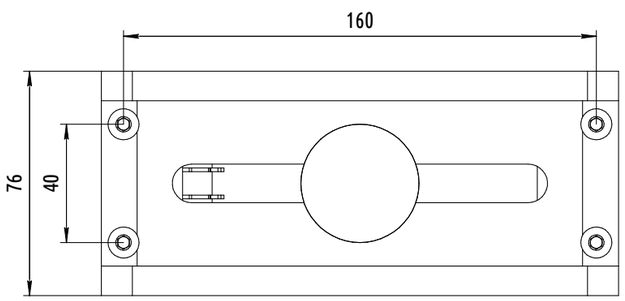
Lengths of the lever - 148, 180 mm
Nominal working force (on the cable) - 1500 H
Gear ratio - 8 : 1
Fixing bracket lengths - 200, 252, 310 mm

Control levers

EAAX-CL82



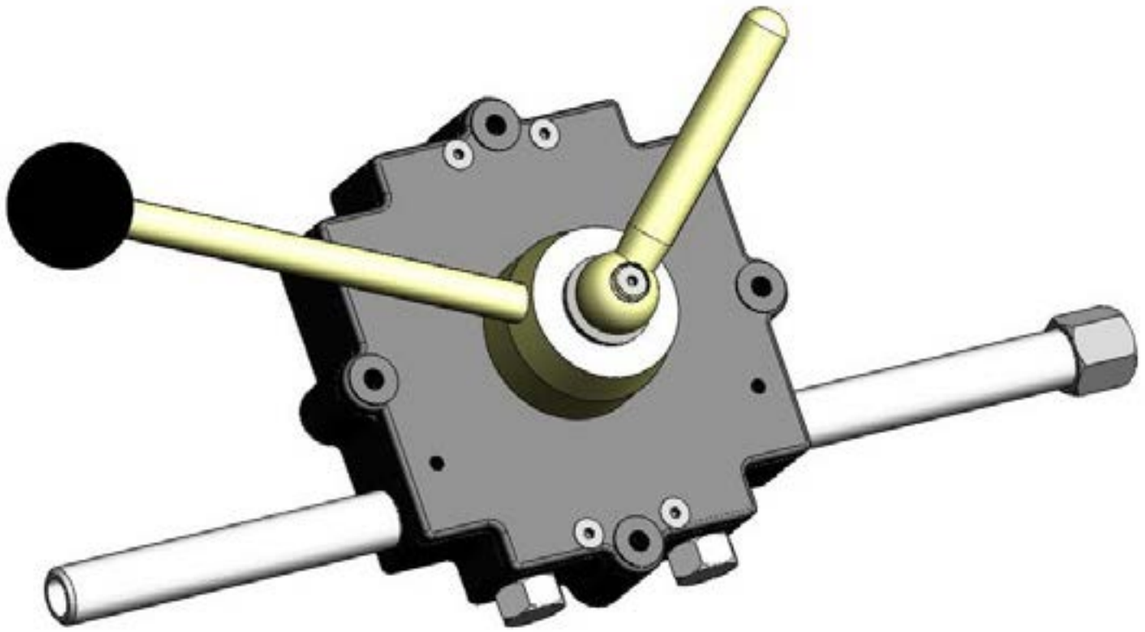


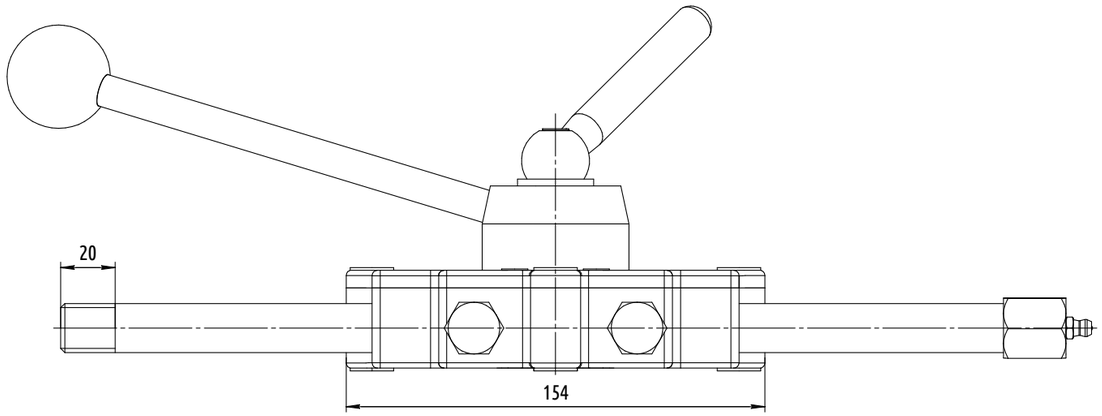


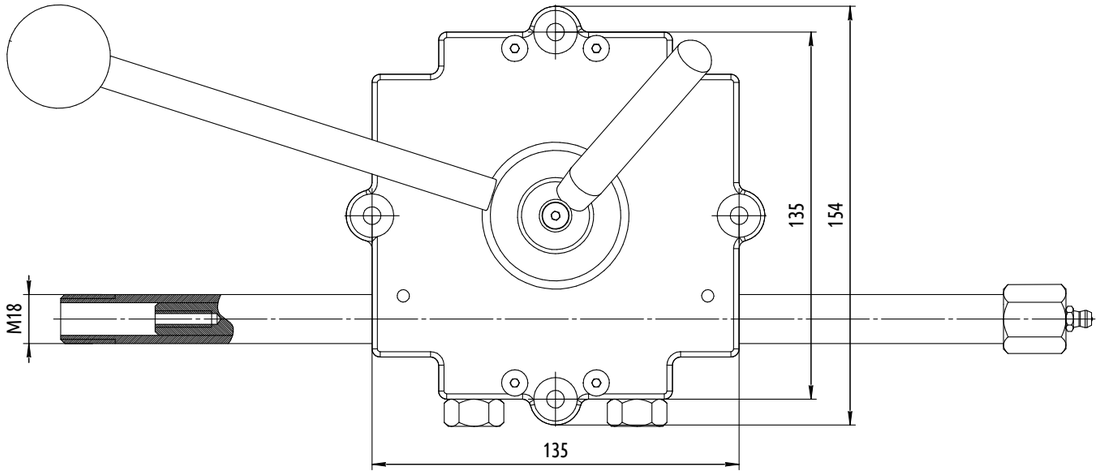
Lengths of the lever - 148, 180 mm
Nominal working force (on the cable) - 1500 H
Gear ratio - 8 : 1
Fixing bracket lengths - 200, 252, 310 mm

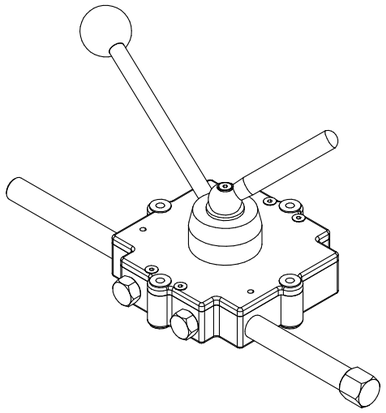
Control levers

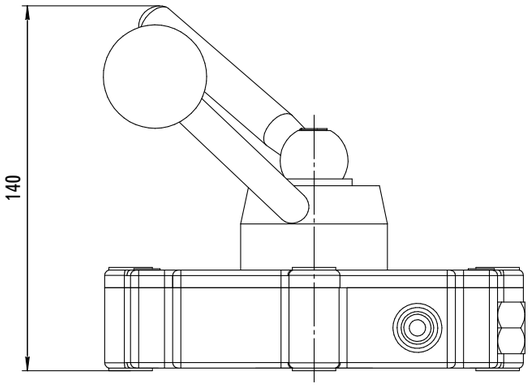
EAAX-BL1







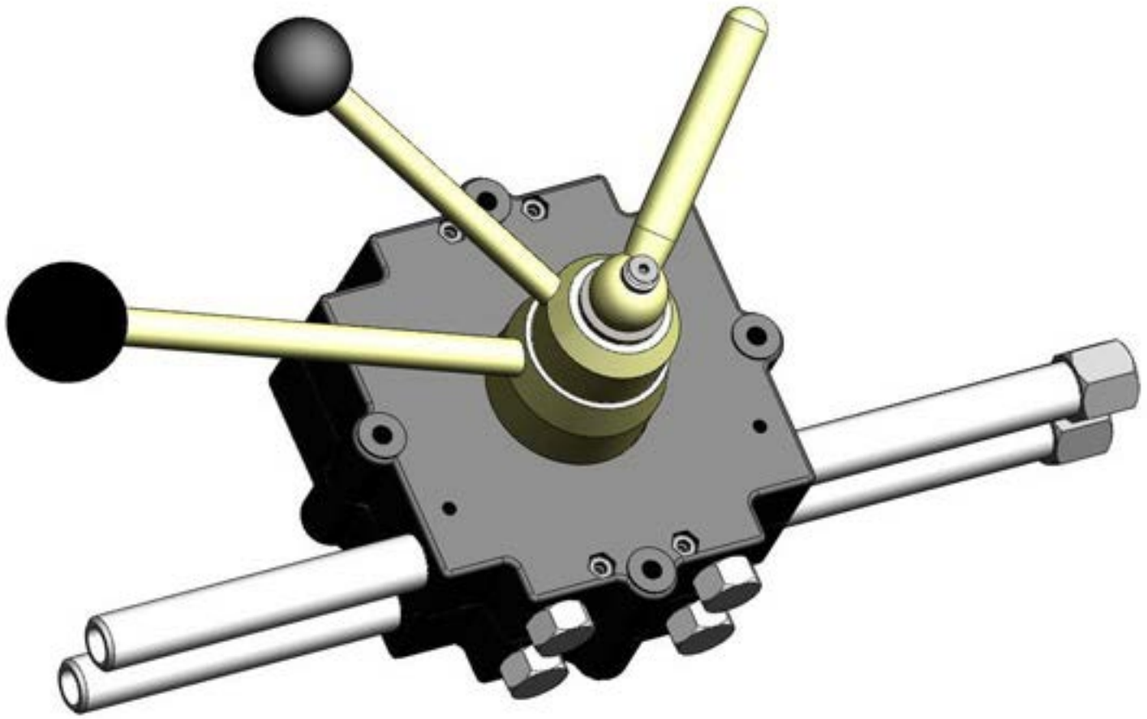


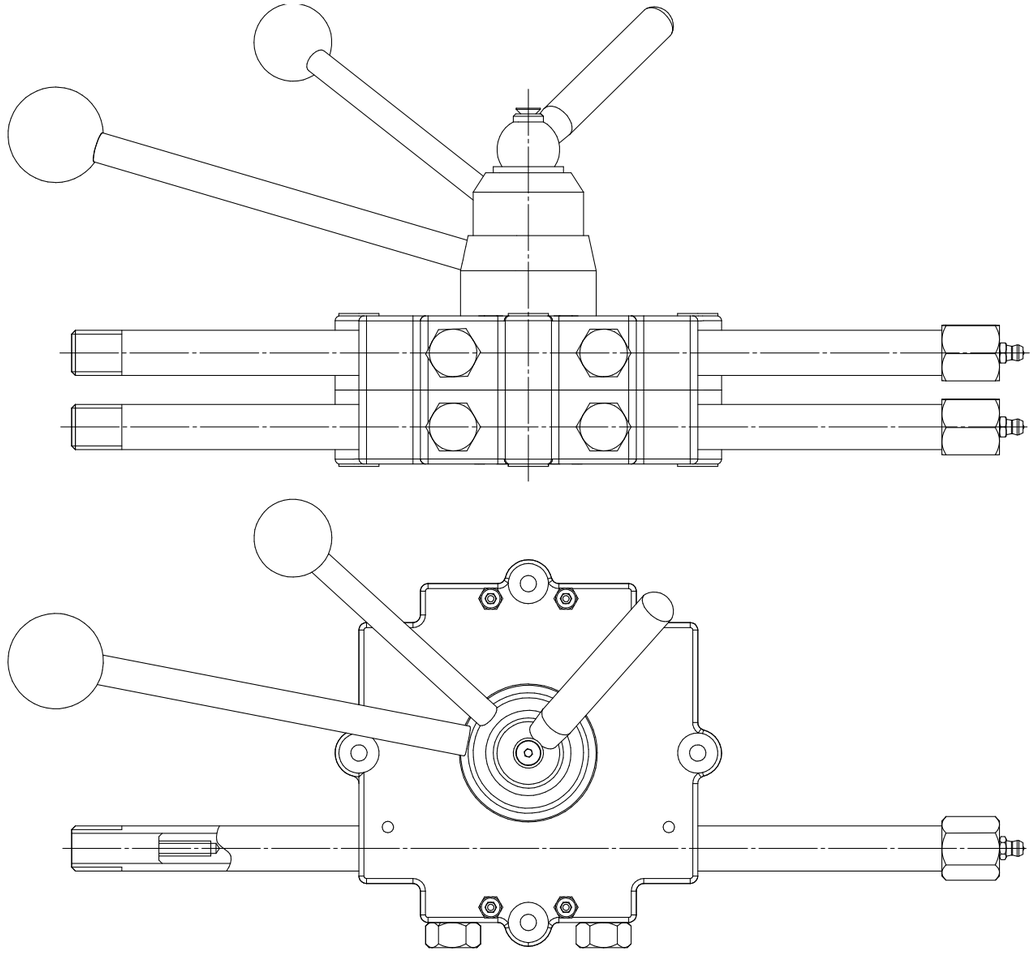


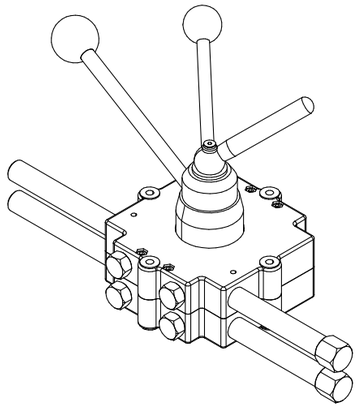
Rack travel (EAAX-BL1-120) - 120 mm
Rack travel (EAAX-BL1-90) - 90 mm
Locking device function

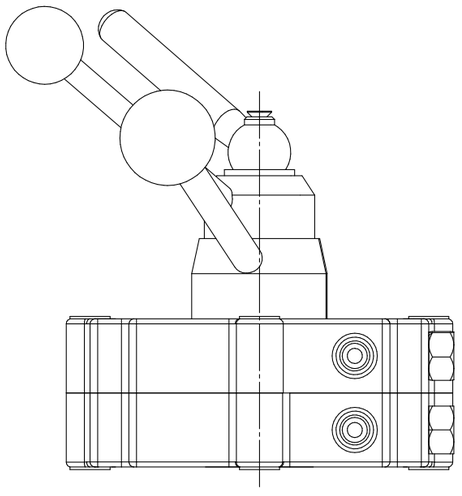
Control levers

EAAX-BL2





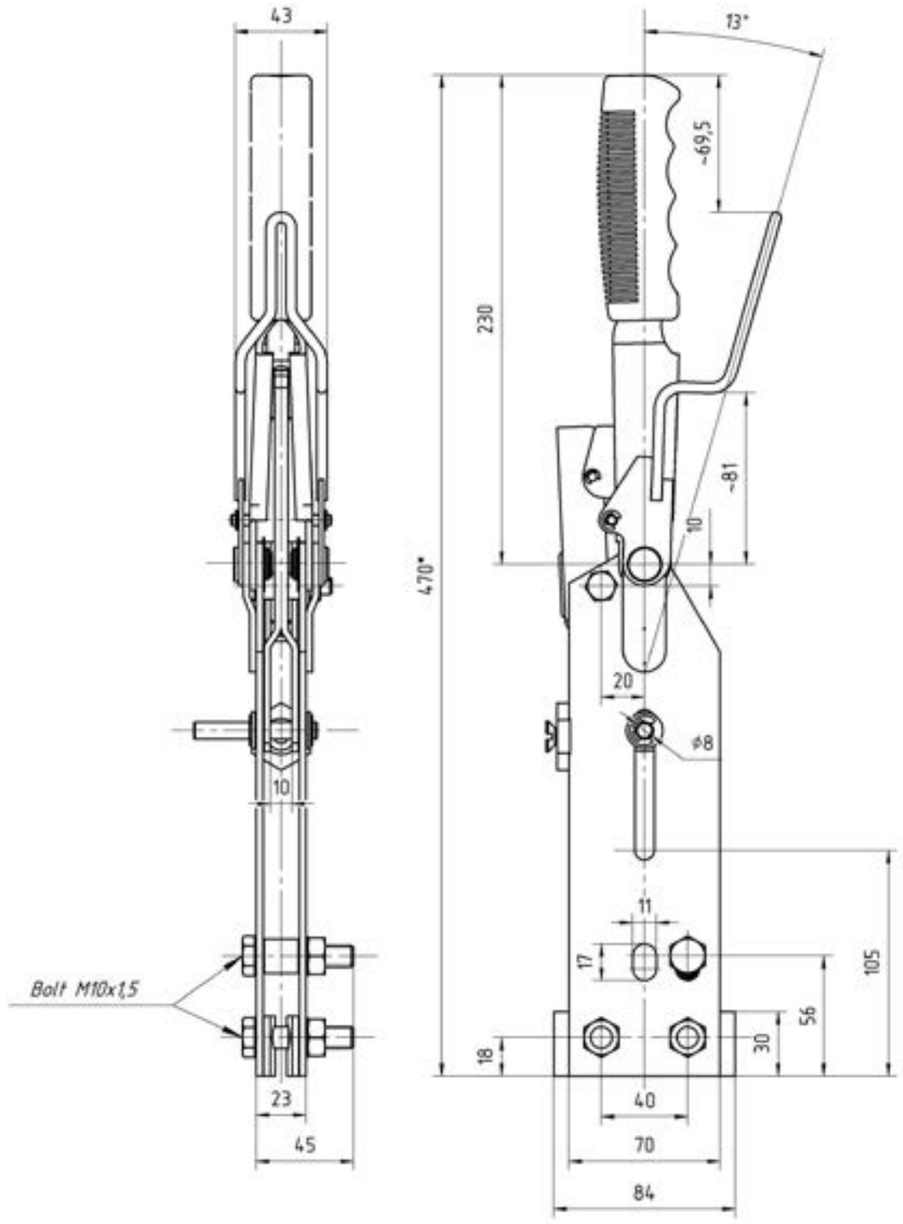




Rack travel (EAAX-BL2-120) - 120 mm
Rack travel (EAAX-BL2-90) - 90 mm
Combination of 90 mm and 120 mm travels
Locking device function

Control levers

Parking brake lever EAAX-RCB2

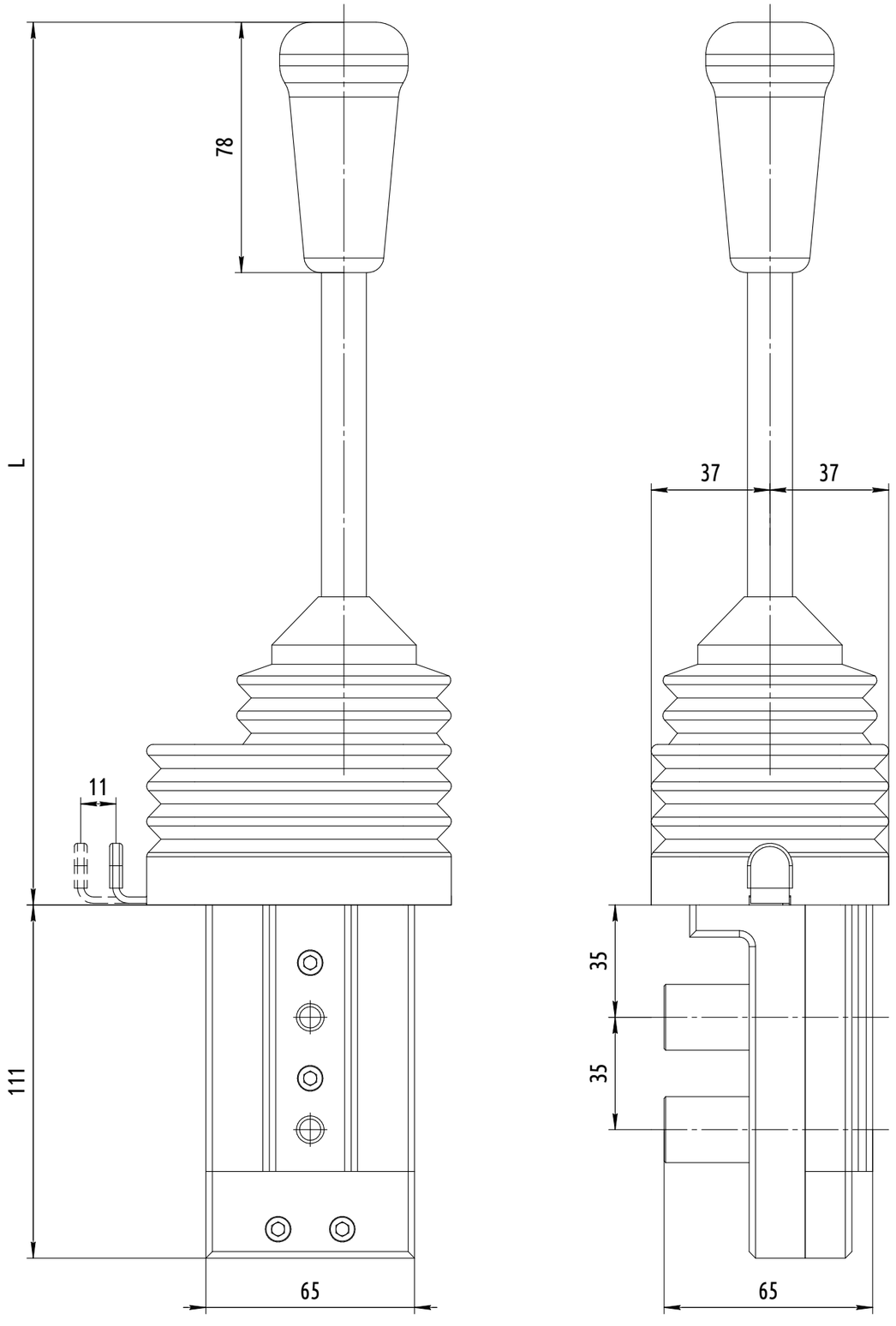


Cable travel - 60 mm
Max force on cable - 300 kg
Max force on the lever - 20 kg

Joysticks

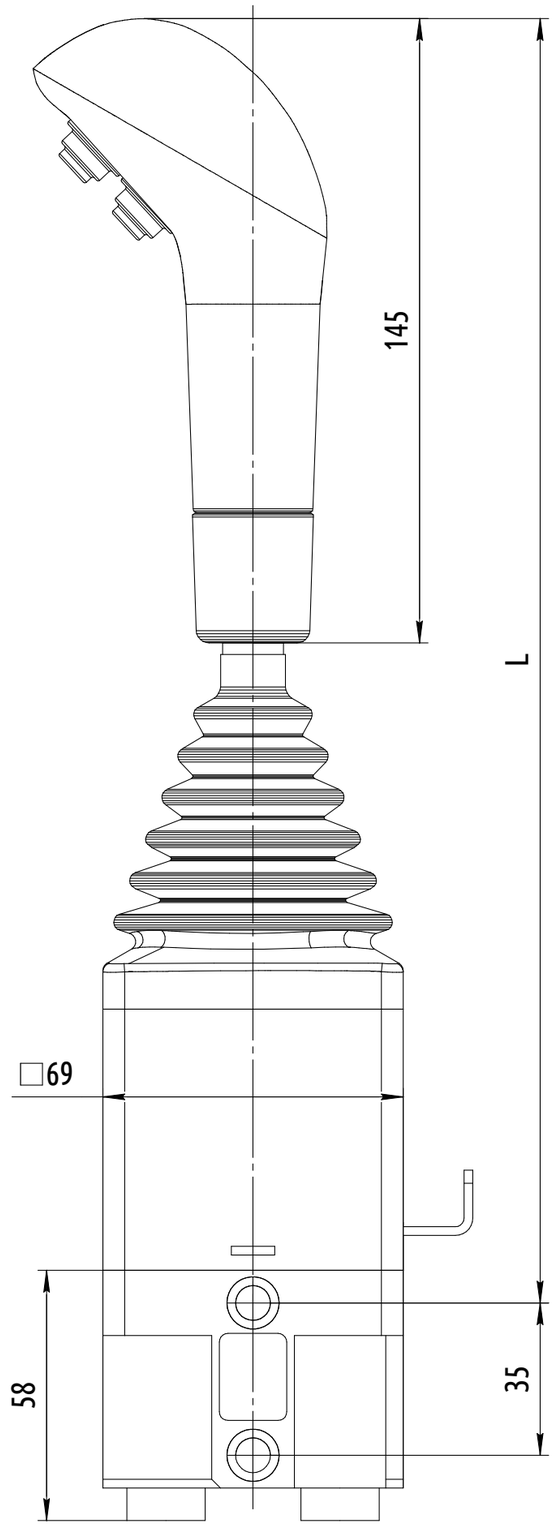
EAAX-J25

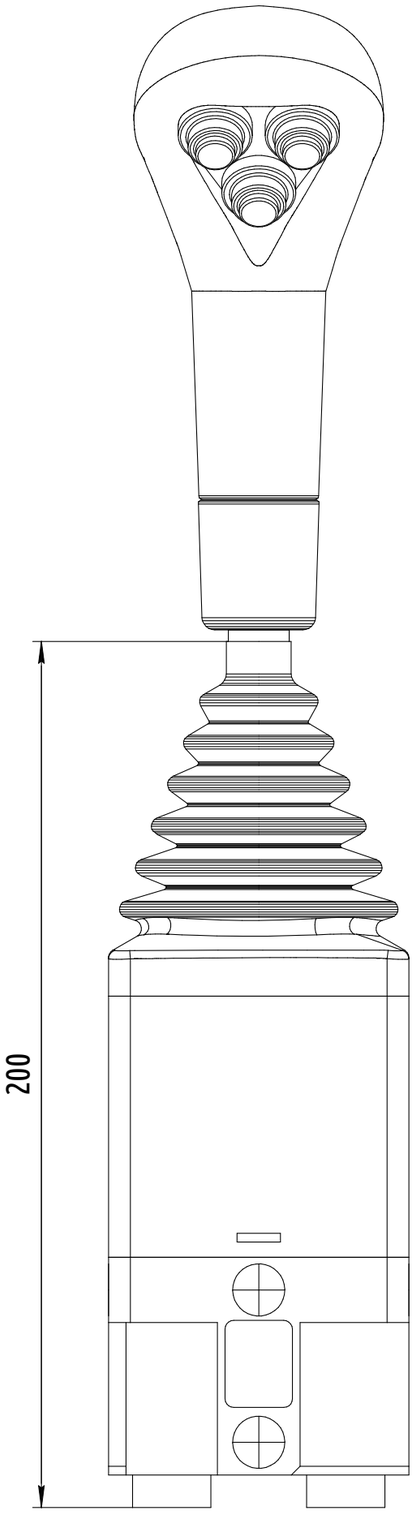
Cable travel - ± 13 mm
Operating loads - 400 H
Cable connecting type - H7
Lengths of the lever - 275, 330 mm
Automatic return to centre
Available with bent lever, ergonomic handle and switches



Joysticks

EAAX-J28

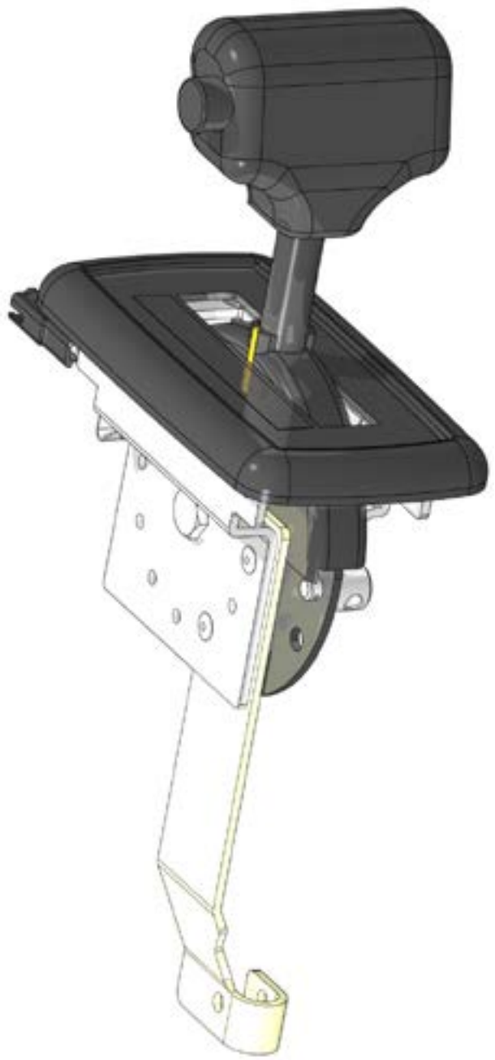


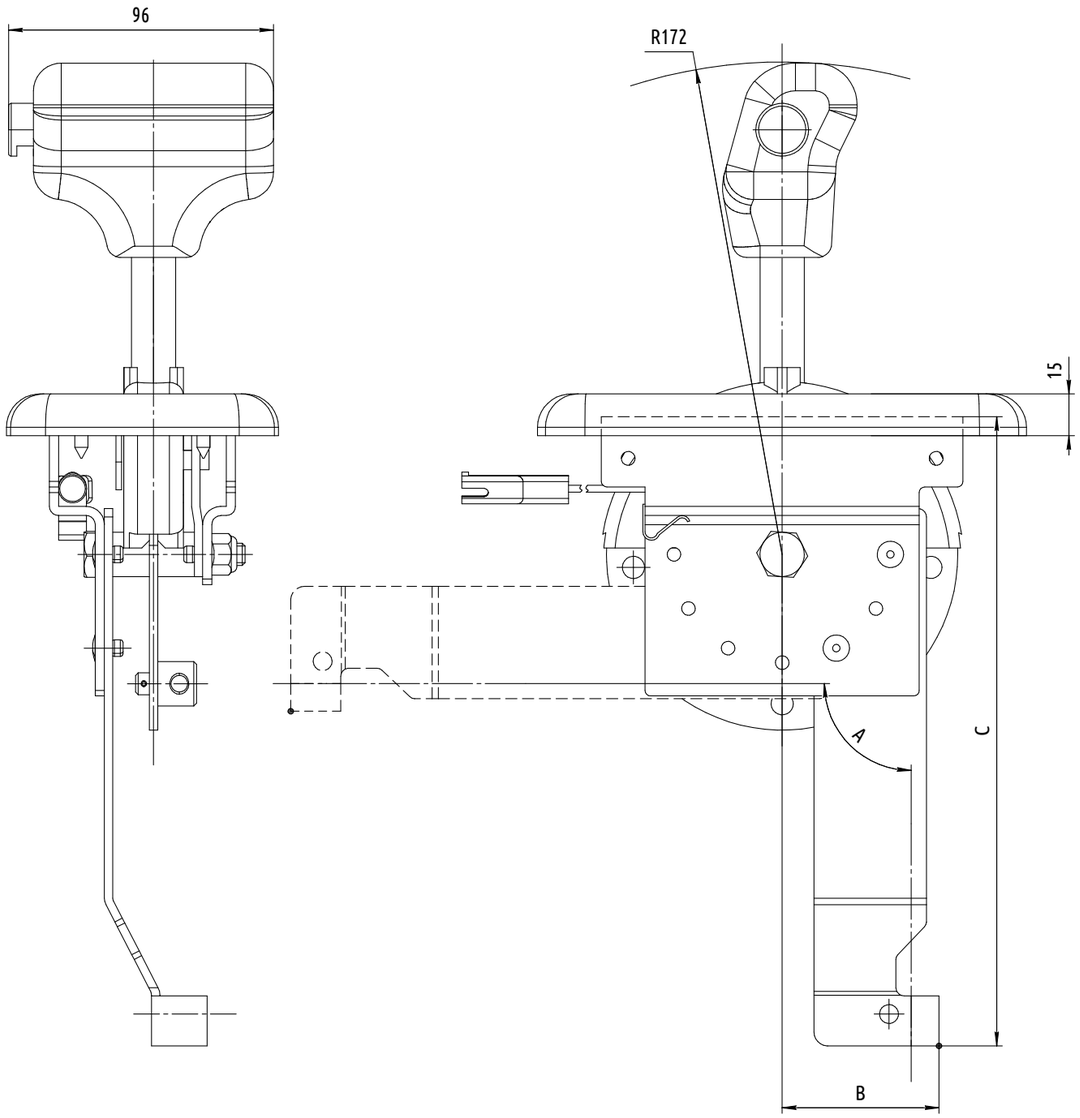


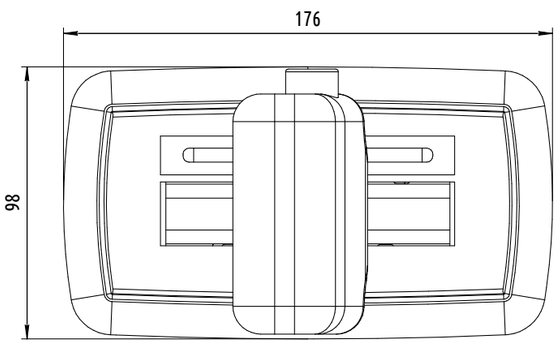
Cable travel - ± 16 мм
Cable connecting type - H8
Lengths of the lever - 295, 345 мм
Can be mounted on the wall or on the bracket

Shifters, selectors

EAAX-NG



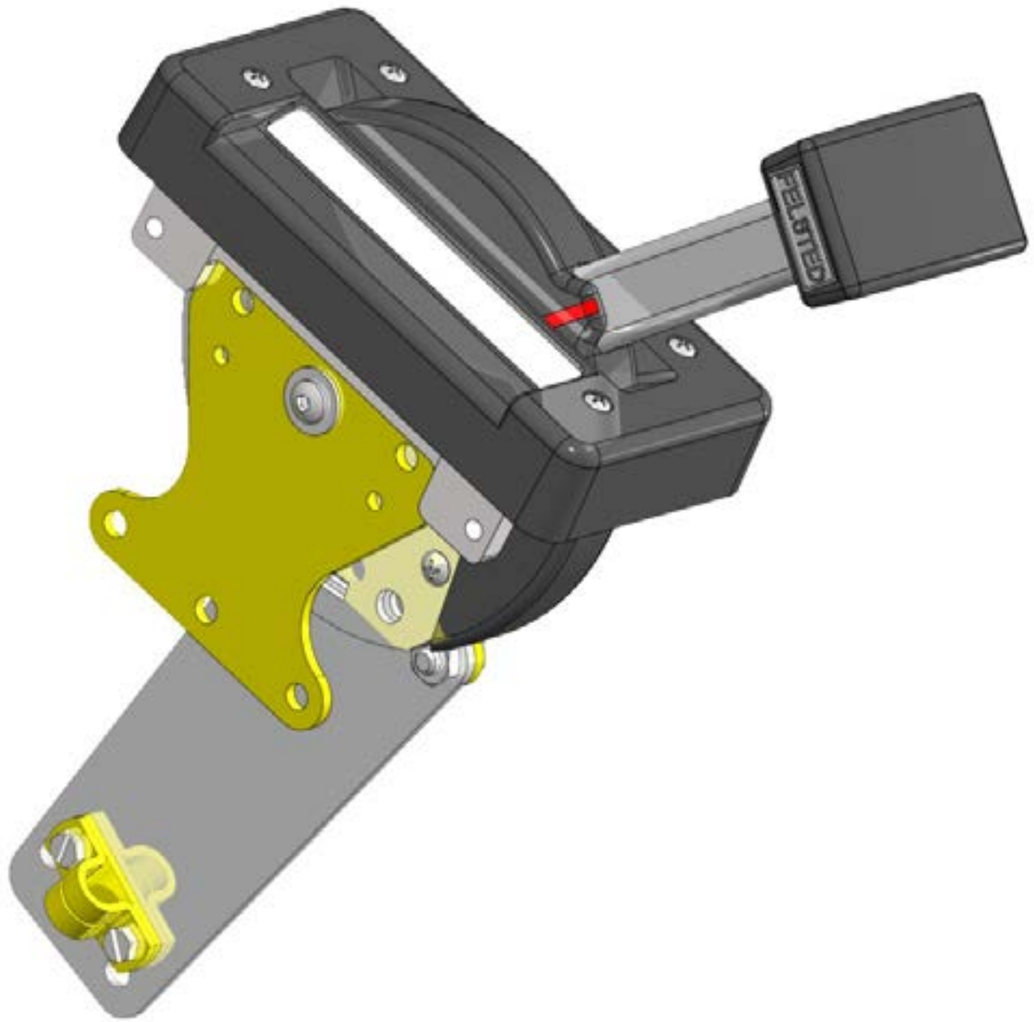


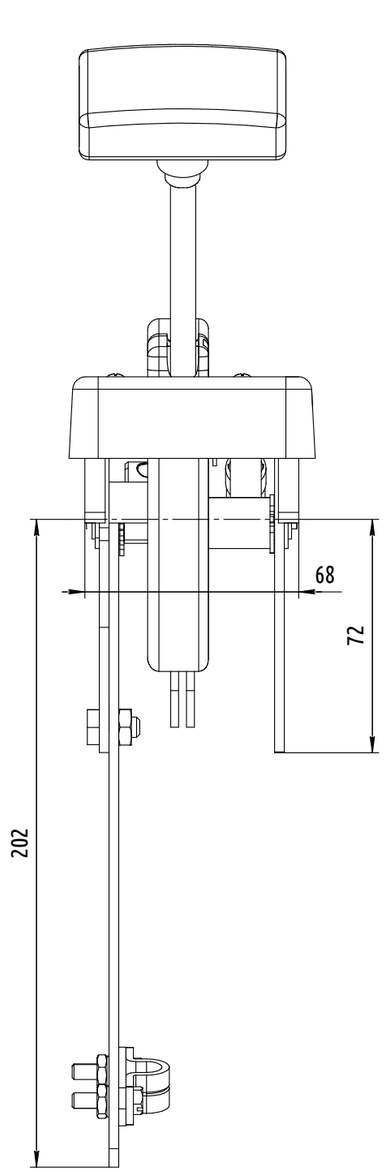


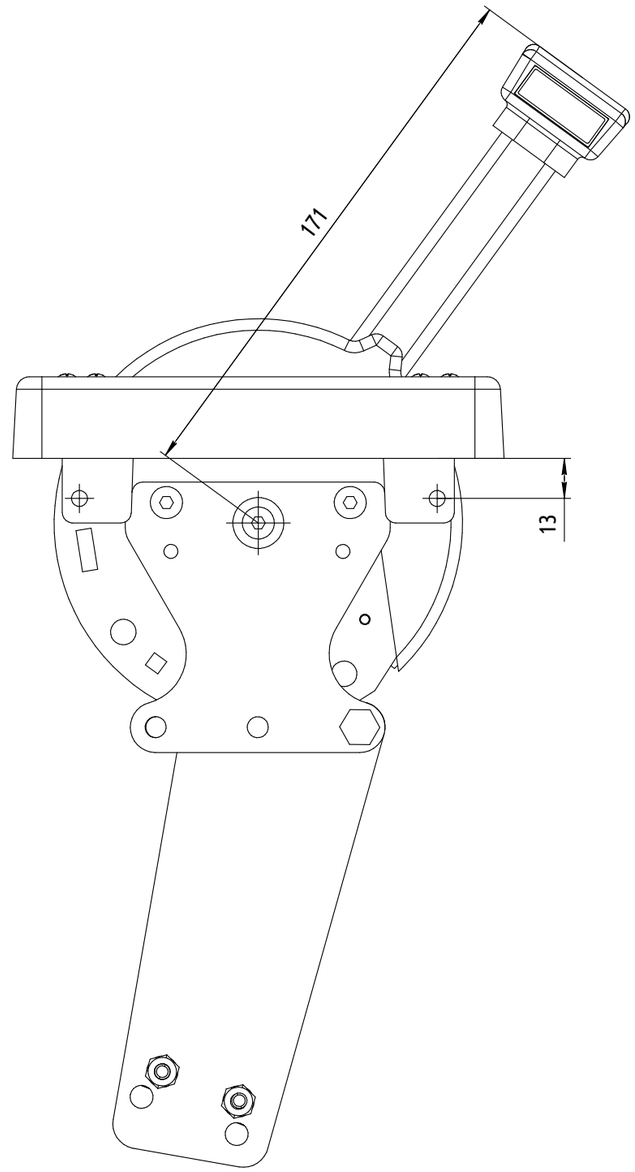
Cable travel - 50 mm
Fixation in needed positions

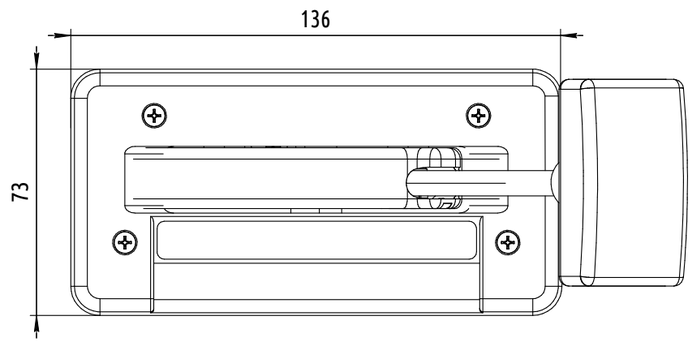
Shifters, selectors

Shifter with friction pad EAAX-FP01





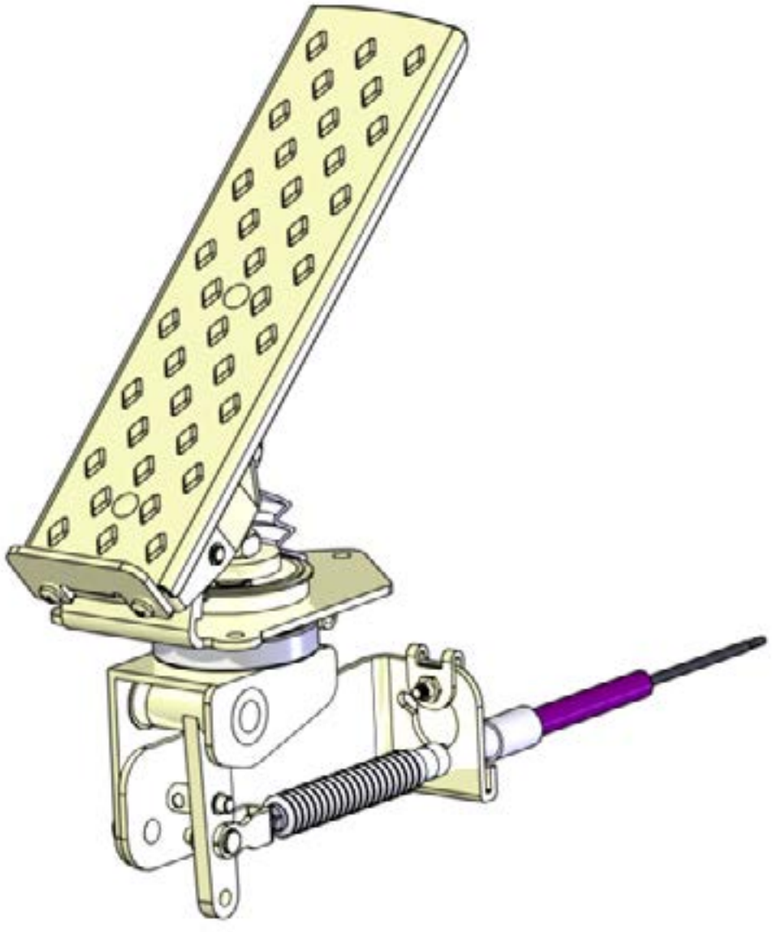


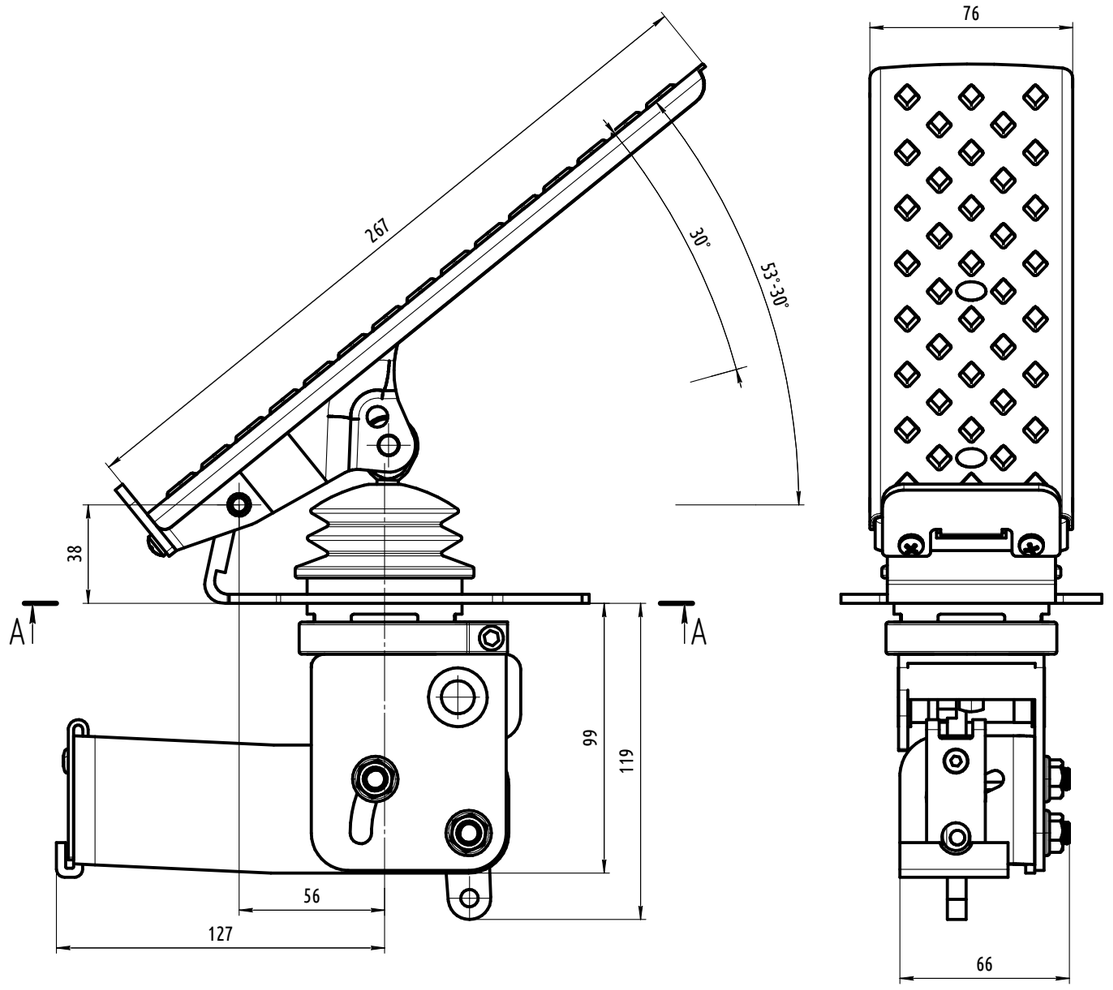


Cable travel - 75 mm
FAST-SLOW adjustment
Can be used with cable of 4srs & 6srs

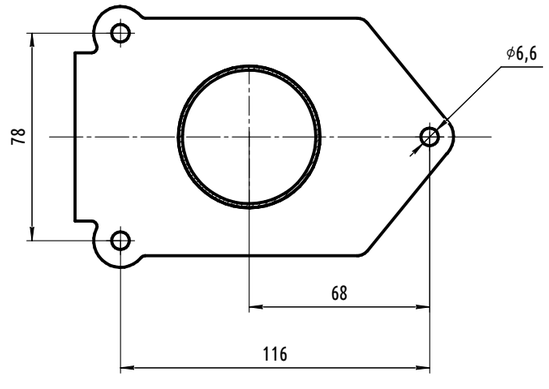
Mechanical pedals

EAAX-MFP01





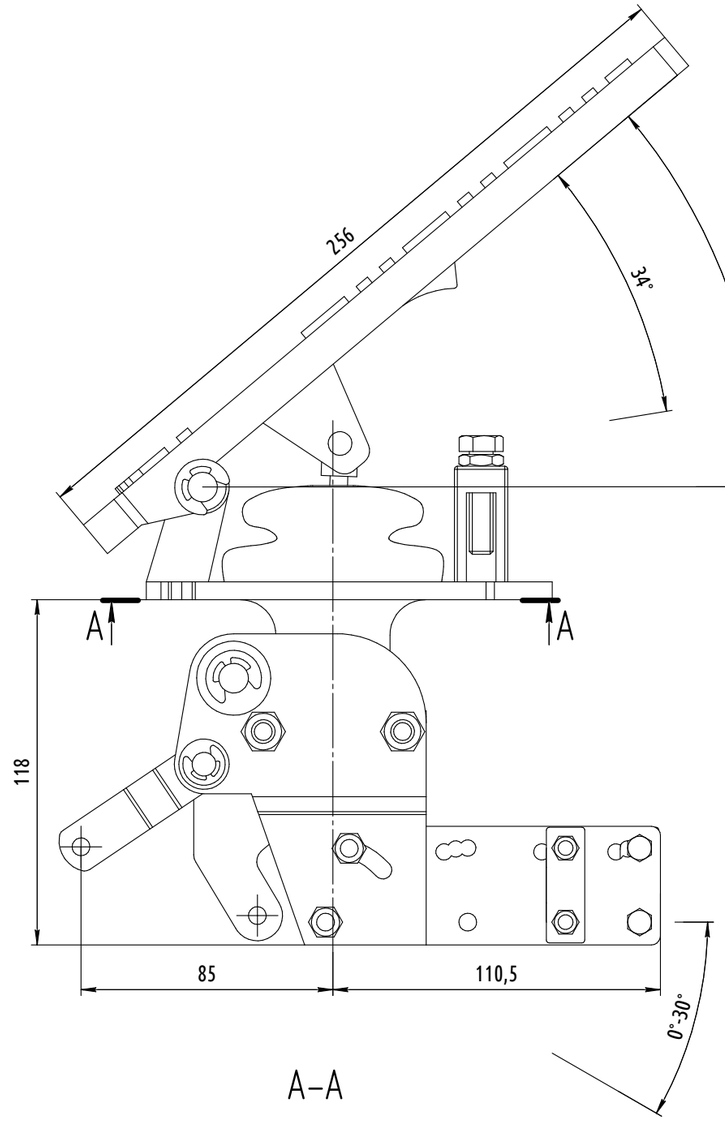
A–A

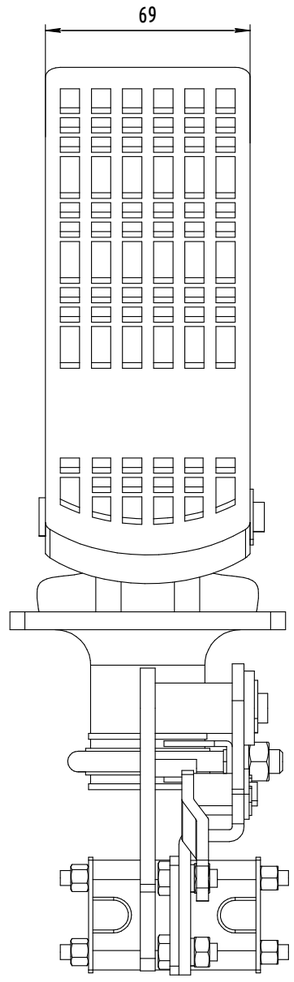


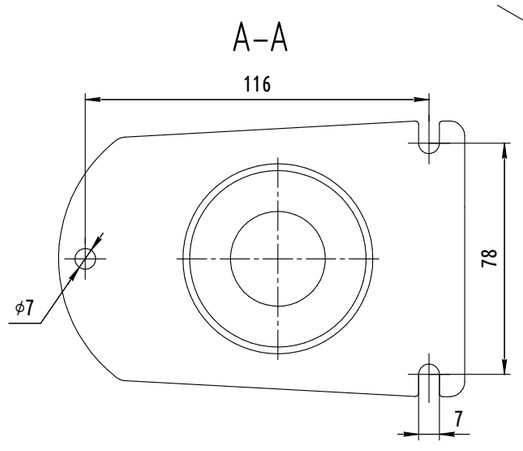
Cable travel - 50 mm
Cable can be mounted from any side

Mechanical pedals

EAAX-MFP02



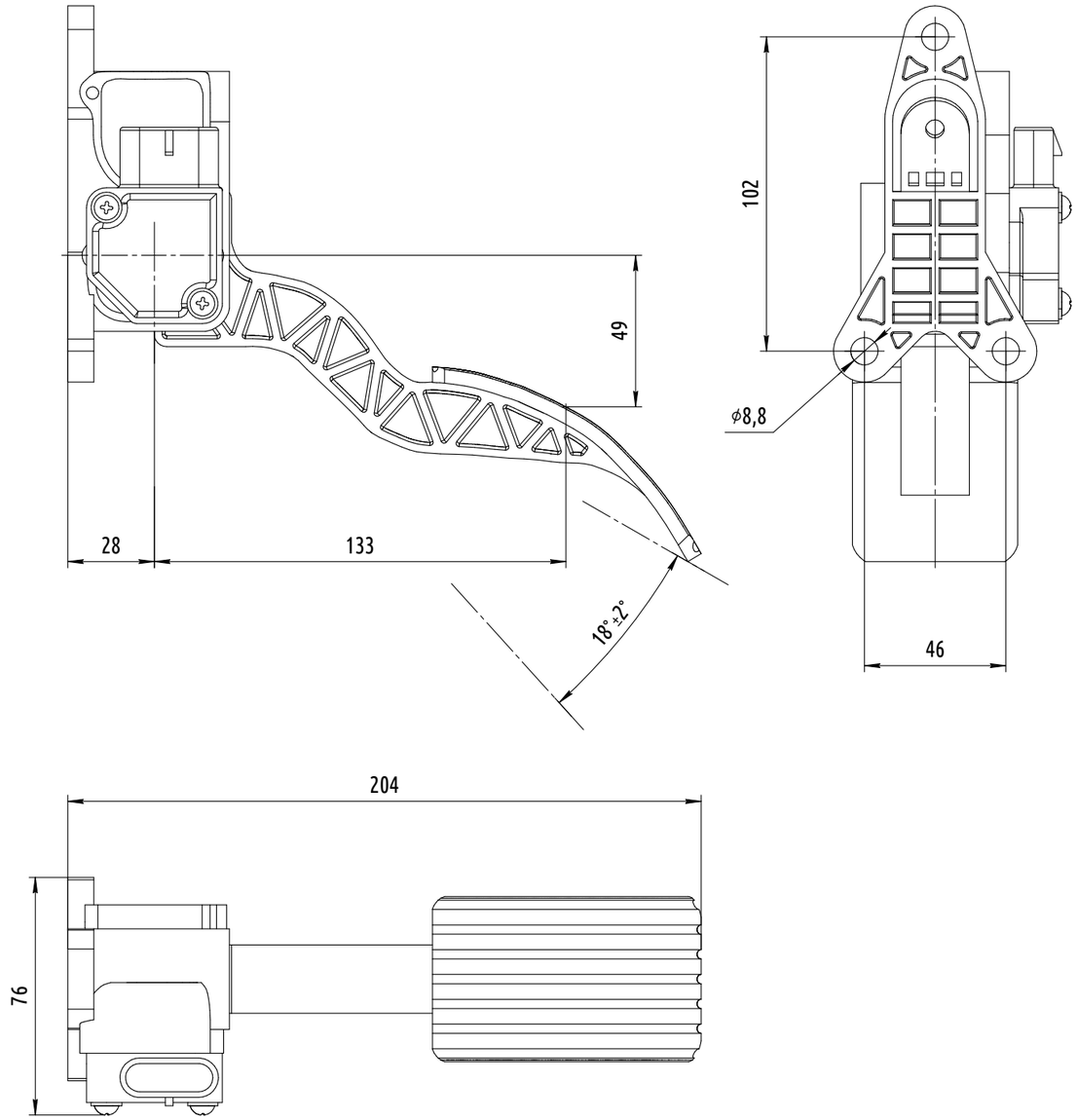




Cable travel - 50 mm
Can be used in conjunction with any hand throttle lever
Cables can be mounted from any side

Electronic control

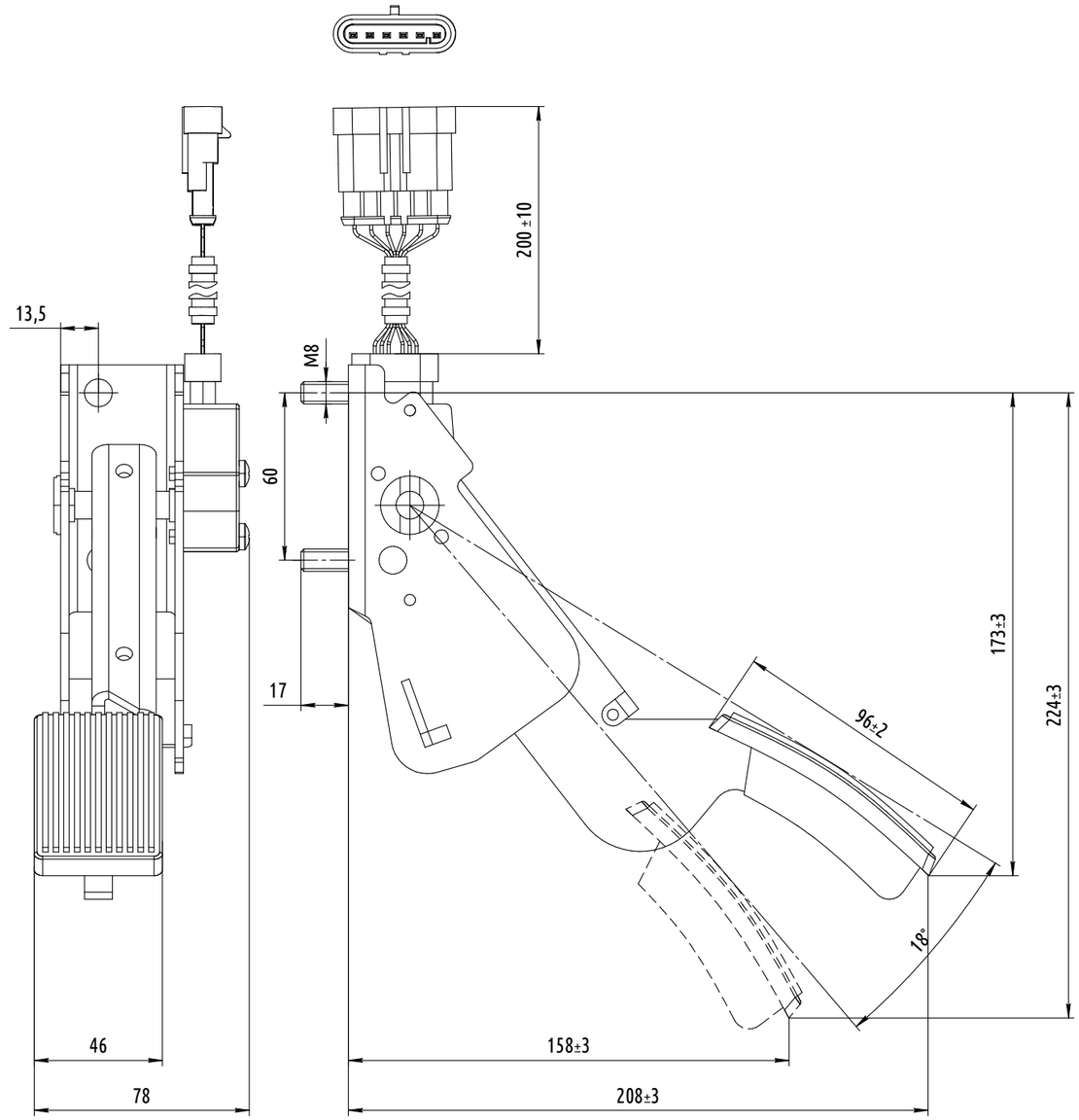
Suspended pedal EAAX-EXP002x



Supply voltage - 5 ± 0,5 V
Mechanical travel - 18 ± 2 degrees
Endurance - More than 10,000,000 cycles (100 cycles per minute)
Operating temperature - from -40 °C to +85 °C
Can be supplied with different outputs and connectors

Electronic control

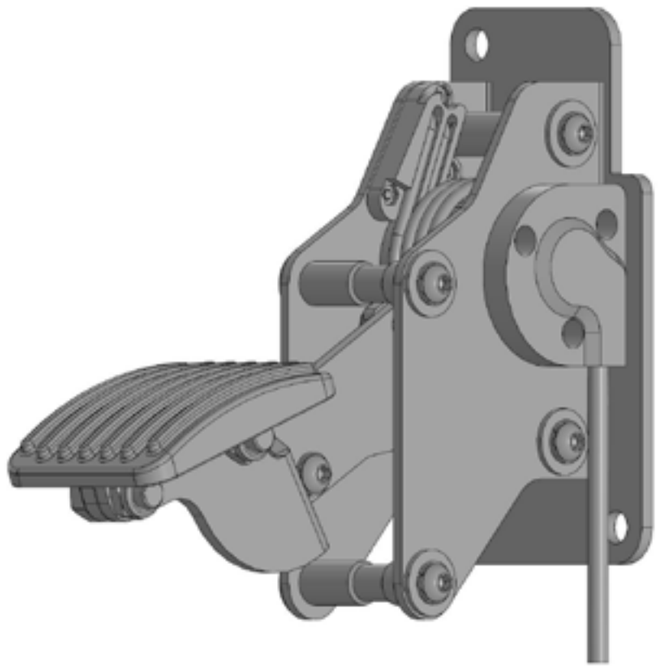
Suspended pedal EAAX-EXP003x

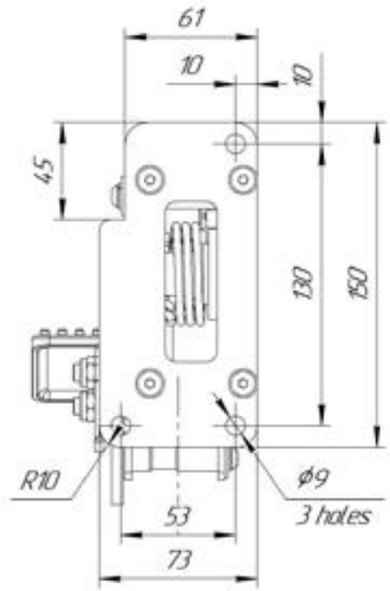


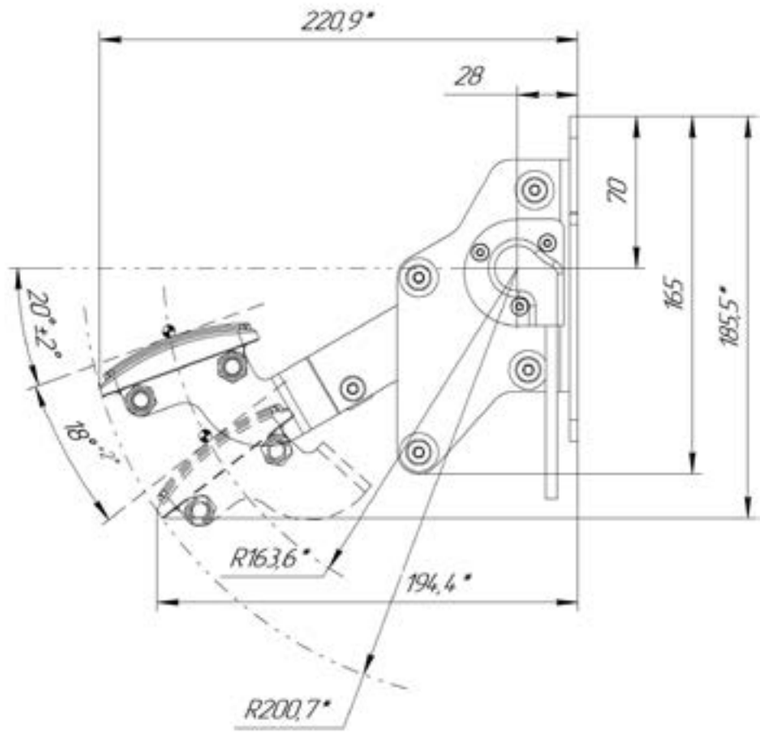
Supply voltage - 5 ± 0,5 V
Mechanical travel - 18 ± 2 degrees
Endurance - More than 10,000,000 cycles (100 cycles per minute)
Operating temperature - from -40 °C to +85 °C
Can be supplied with different outputs and connectors

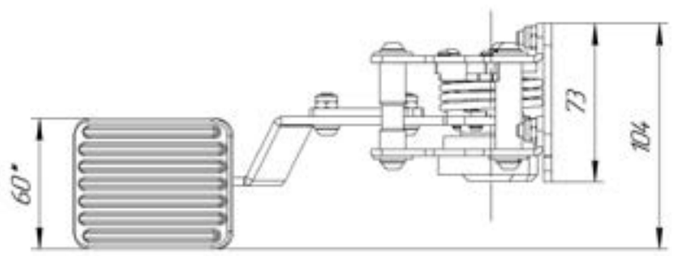
Electronic control

Suspended pedal EAAX-EXP003x





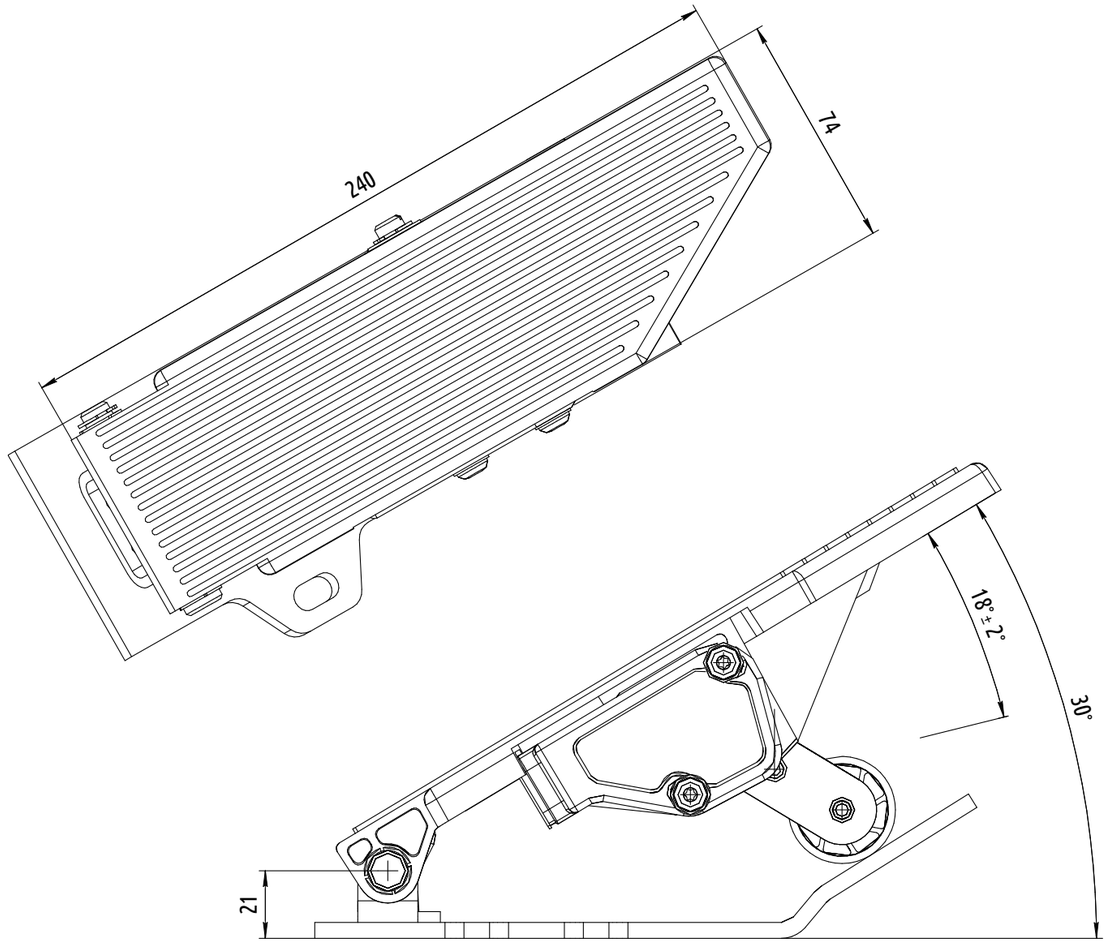


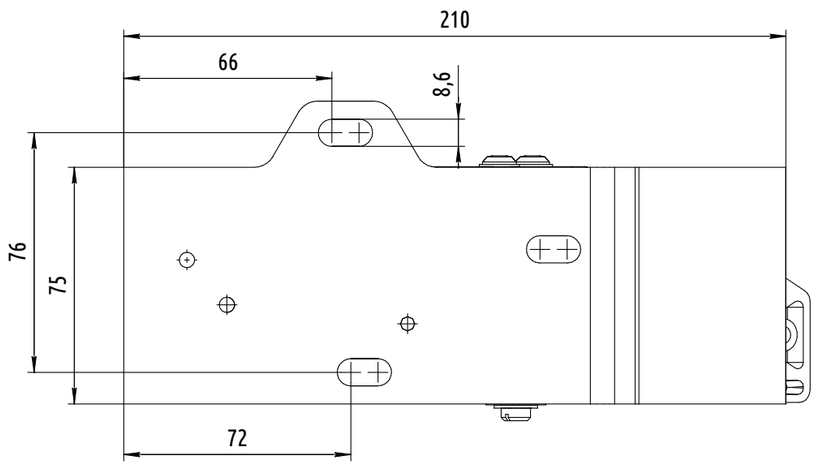


Supply voltage - 5 ± 0,5 V
Mechanical travel - 18 + 2 degrees
Can be supplied with different outputs and connectors

Electronic control

Floor mounted EAAX-EFP001x

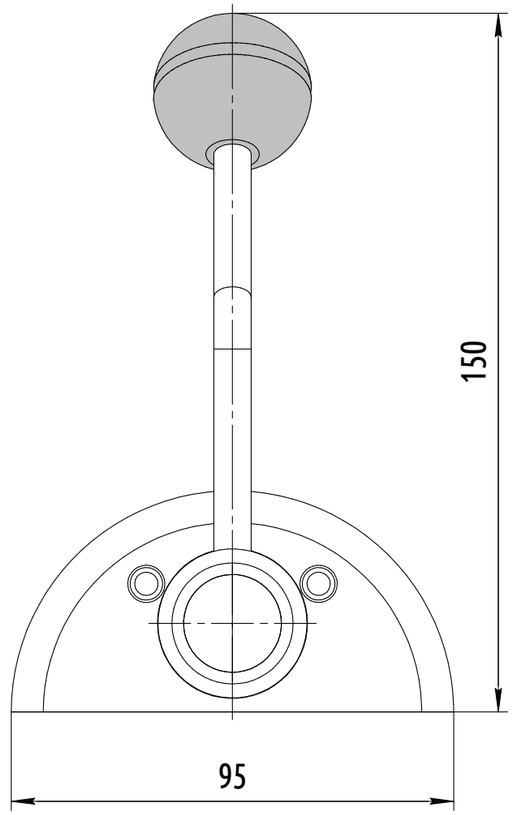


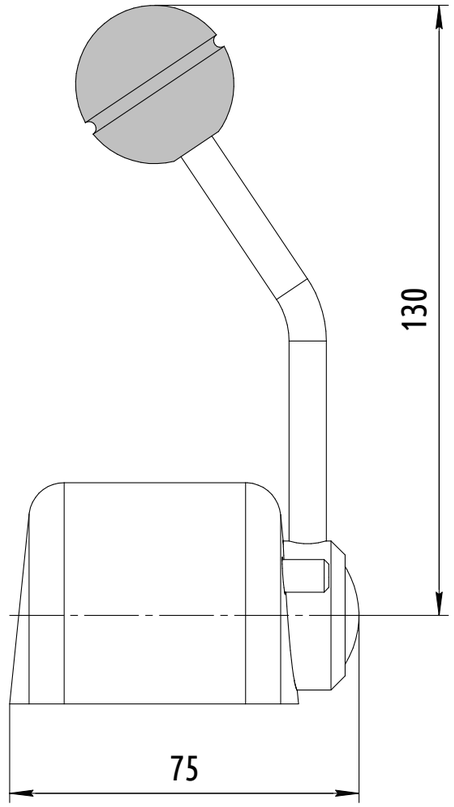


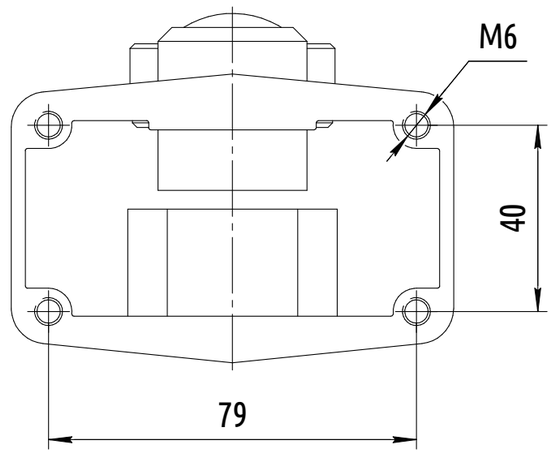
Supply voltage - 5 ± 0,5 V
Mechanical travel - 18 ± 2 degrees
Endurance - More than 10,000,000 cycles (100 cycles per minute)
Operating temperature - from -40 °C to +85 °C
Can be supplied with different outputs and connectors

Electronic control

Hand throttle EAAX-ETC002x



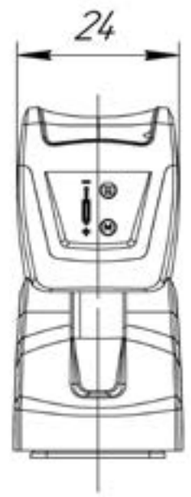


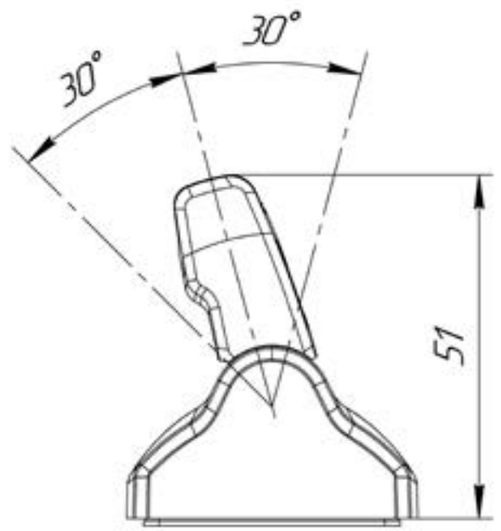


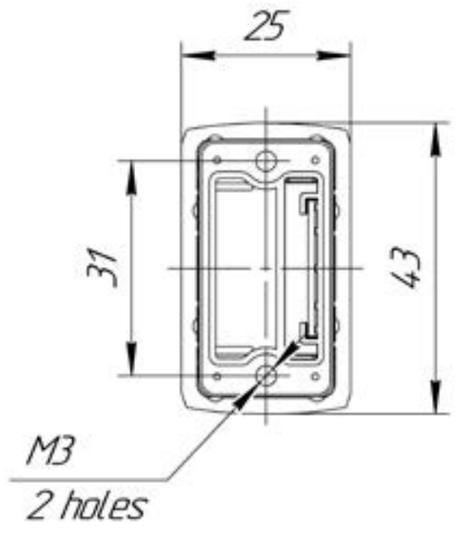
Supply voltage - 5 ± 0,5 V
Mechanical travel - 18 ± 2 degrees
Endurance - More than 10,000,000 cycles (100 cycles per minute)
Operating temperature - from -40 °C to +85 °C
Can be supplied with different outputs and connectors

Electronic control

Electronic selector EAAX-SATJ-x

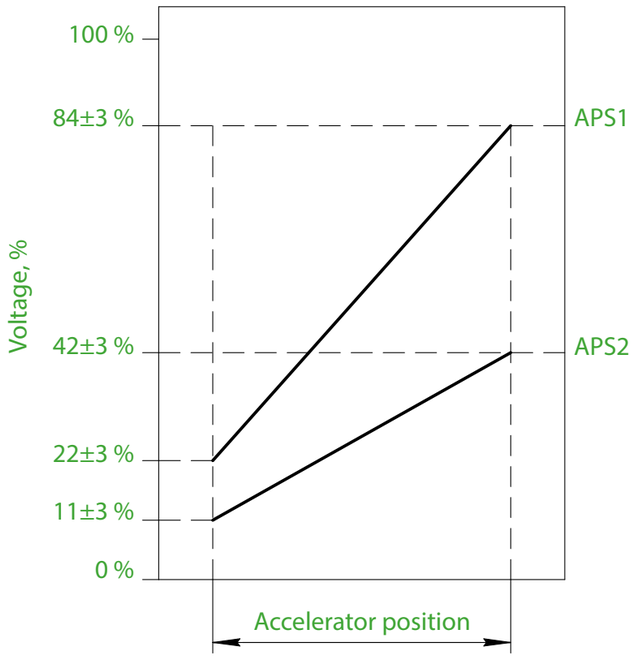


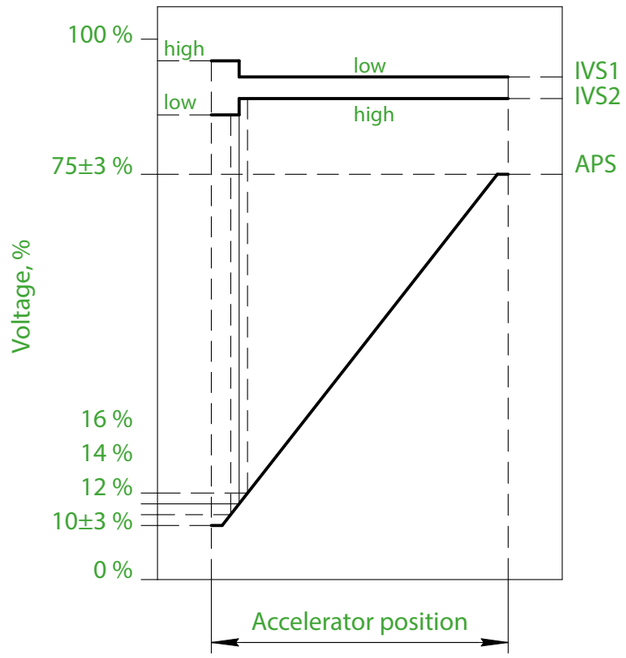


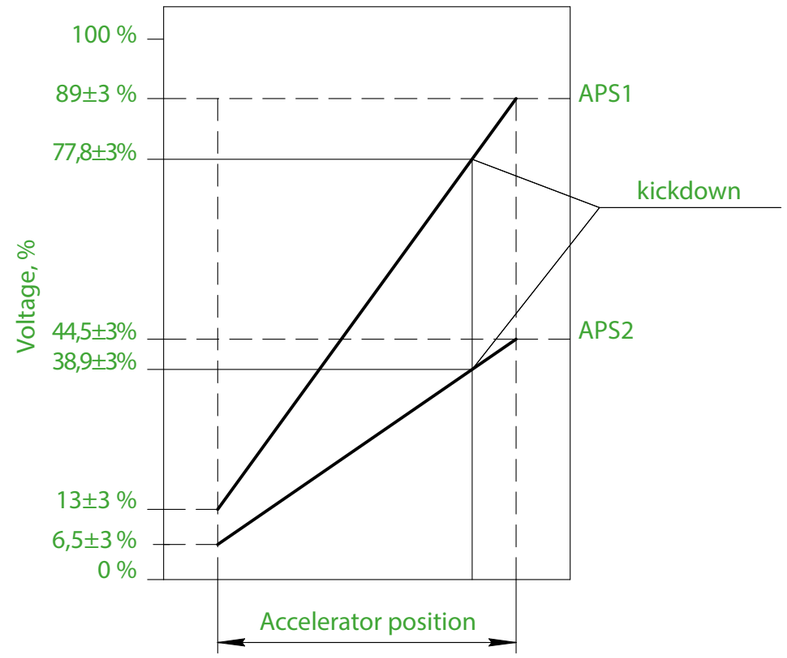


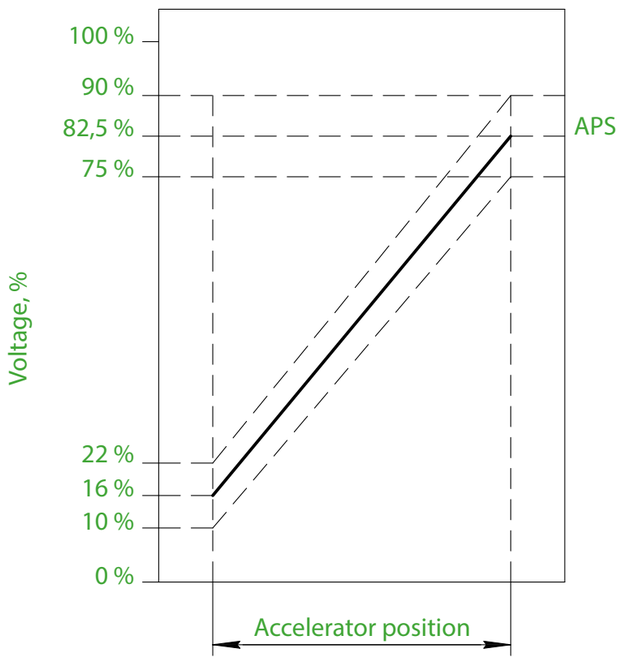
Power supply - DC5 V
Operation angle - ± 30 degrees
Outputs - analog voltage 0.5-4.5 V
Life span - 5,000,000 operating cycles
Operating temperature - from -40 °C to +70 °C
Protecting level - IP67
Spring automatic return, friction resistance positioning, multiple gears
A variety of output characteristics is possible

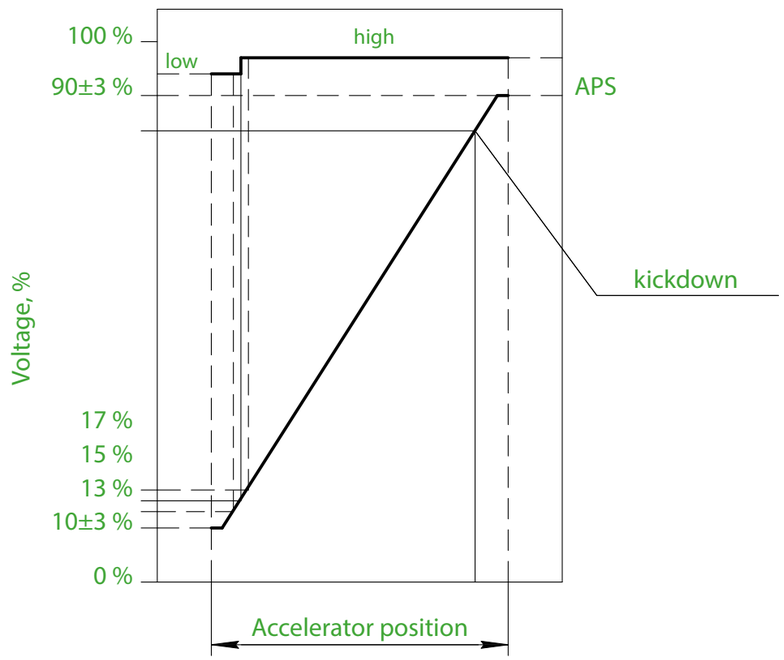
Outputs

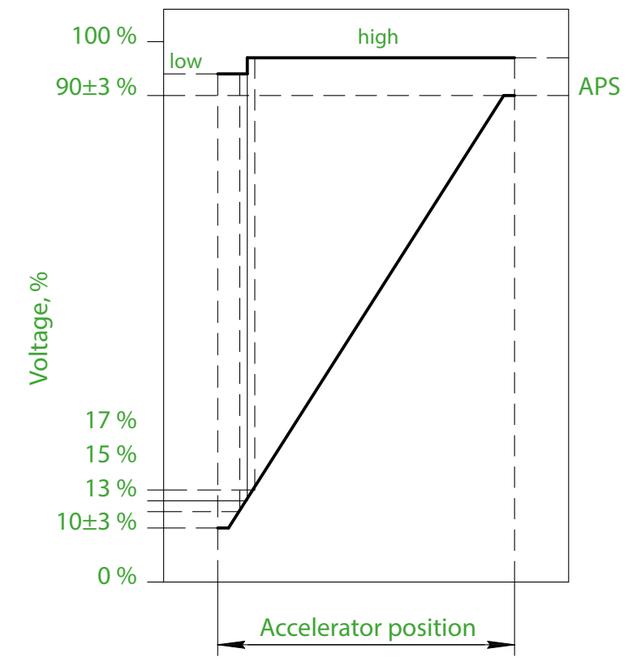

100 %
84±3 %
APS1
42±3 %
APS2
22±3 %
11±3 %
0 %
Voltage, %
Accelerator position


100 %
high
low
IVS1
low
high
IVS2
75±3 %
APS
16 %
14 %
12 %
10±3 %
0 %
Voltage, %
Accelerator position


100 %
89±3 %
APS1
77,8±3%
kickdown
44,5±3%
APS2
38,9±3%
13±3 %
6,5±3 %
0 %
Voltage, %
Accelerator position


100 %
90 %
82,5 %
APS
75 %
22 %
16 %
10 %
0 %
Voltage, %
Accelerator position


100 %
high
low
90±3 %
APS
kickdown
17 %
15 %
13 %
10±3 %
0 %
Voltage, %
Accelerator position


100 %
high
low
90±3 %
APS
17 %
15 %
13 %
10±3 %
0 %
Voltage, %
Accelerator position

Our production patented

UKRAINE

RUSSIAN FEDERATION

REPUBLIC OF BELARUS

Achievements

PACCAR

GM

NAVISTAR

CHRYSLER

ROLLS ROYCE

DAIMLER

FORD

HINO