Swing clamps with position detection

Table of content

Swing clamp : HL * * X A

Double acting with helical groove
With sensor rod

Supply through counter-bores under ring
Fixing using screws

Characteristics

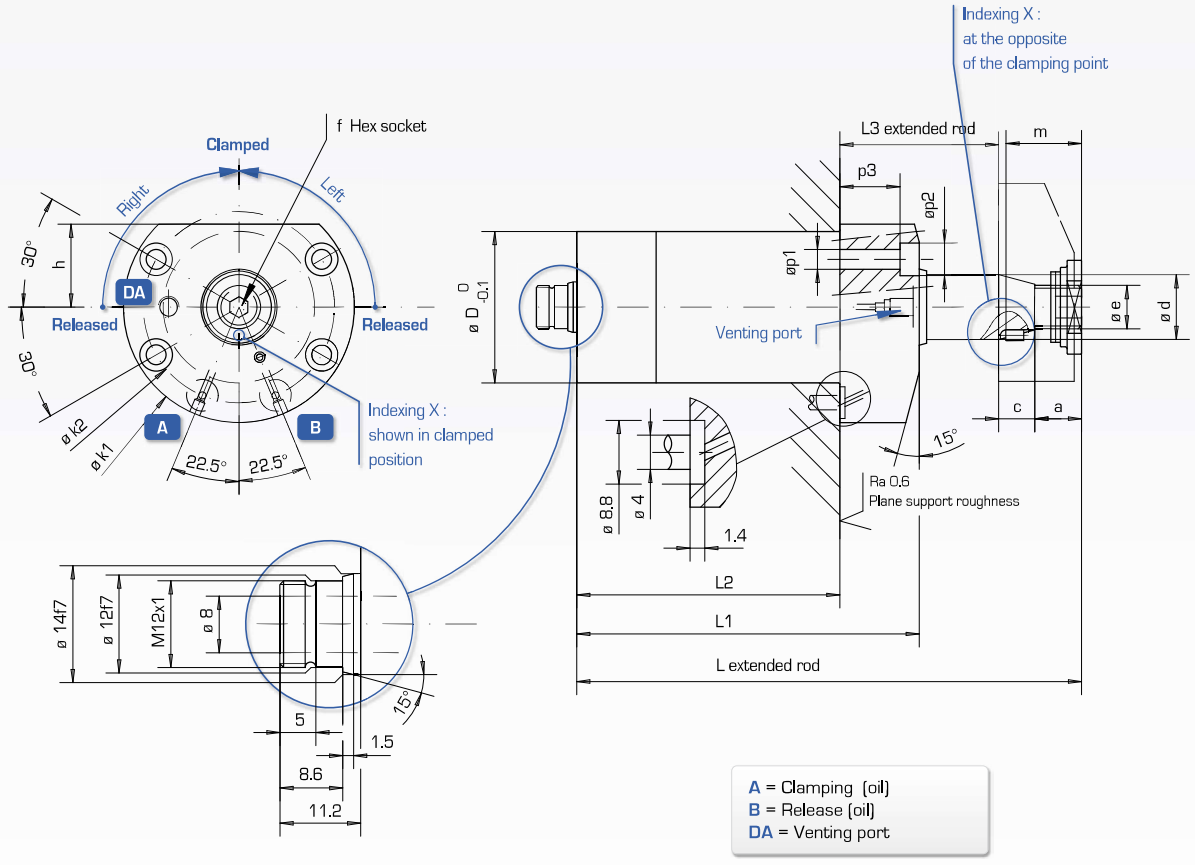
- stroke from 8 to 12 mm
- helical goove right and left rotation 90°±2°
- clamping venting port
- indexing on the rod
- maximum using pressure : 250 bar

Options

- clamping arms : see accessories heading
- rotation 60°, 45° or 0° on request

Note

Cylinders supplied with o-ring seals, locking nut and lock-washer (dimensions : see page 72).
Seals : 5.28 x 1.78 90 NBR



Definition of forces as function of clamping arms : see pages 21 and 45
Important recommendations : see page 44

F max at 250 bar	Rod ød	Clamping stroke	Total stroke	Max flow A	Area extend A B	Dir. of rota-tion	Type	Order code	Dimensions a	c	øD	e	f key	h	øk1 øk2	L	L1	L2	L3	m	p1	p2	p3
kN	mm	mm	mm	l/mn	cm³				mm	mm	mm		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
4	18	8	19	0.4	4.48 6.40	right left	HL 11 DX A HL 11 GX A	191 193/050 191 193/150	13	10	42	M12 x 1.5	5	23	64 53	140	95	73	44	21	5.5	9	13
8	25	12	23	0.9	10.83 18.58	right left	HL 21 DX A HL 21 GX A	191 194/050 191 194/150	16	14	52	M16 x 1.5	6	28	76 63	163	107	81	52	24	6.5	10.5	16

Swing clamp : HLF * * X A

Double acting with helical groove
With sensor rod

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Supply through counter-bores on base side
Fixing using screws

Characteristics

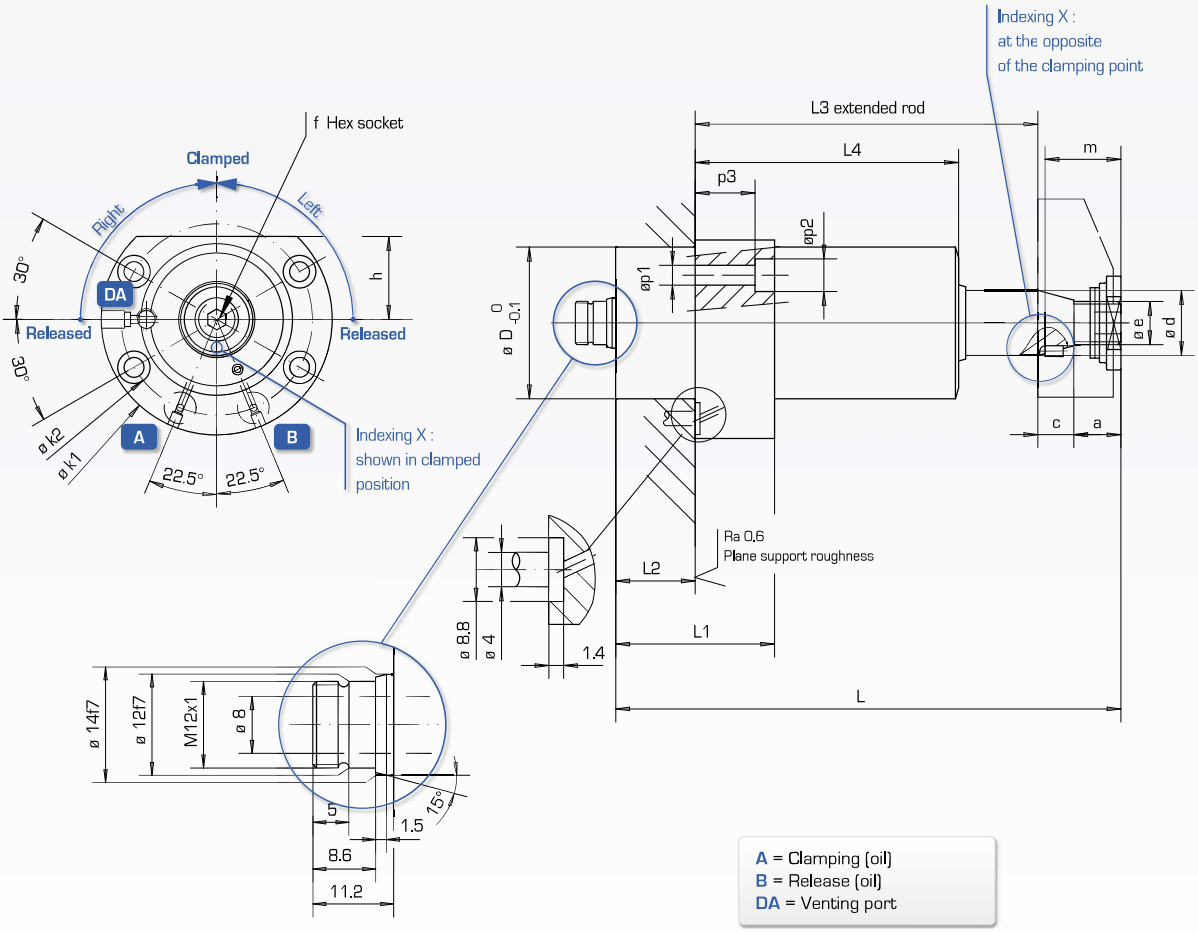
- stroke from 8 to 12 mm
- helical goove right and left rotation 90°±2°
- clamping venting port
- indexing on the rod
- maximum using pressure : 250 bar

Options

- clamping arms : see accessories heading
- rotation 60°, 45° or 0° on request

Note

Cylinders supplied with o-ring seals, locking nut and lock-washer (dimensions : see page 72).
Seals : 5.28 x 1.78 90 NBR



Swing clamps with position detection

Definition of forces as function of clamping arms : see pages 21 and 45
Important recommendations : see page 45

F max at 250 bar	Rod ød	Clamping stroke	Total stroke	Max flow A	Area extend A B	Dir. of rotation	Type	Order code	Dimensions a	c	øD	e	f key	h	øk1 øk2	L	L1	L2	L3	L4	m	p1	p2	p3
kN	mm	mm	mm	l/mn	cm³				mm	mm	mm		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
4	18	8	19	0.4	4.48 6.40	right left	HLF 11 DX A HLF 11 GX A	191 195/050 191 195/150	13	10	42	M12 x 1.5	5	23	64 53	140	46	22	95	73	21	5.5	9	13
8	25	12	23	0.9	10.83 18.58	right left	HLF 21 DX A HLF 21 GX A	191 196/050 191 196/150	16	14	52	M16 x 1.5	6	28	76 63	163	53	23	110	84	30	6.5	10.5	16

Swing clamp : HL * * X B12

Double acting with helical groove
With pneumatic detection of clamped and released positions

Supply through counter-bores under ring
Fixing using screws

Characteristics

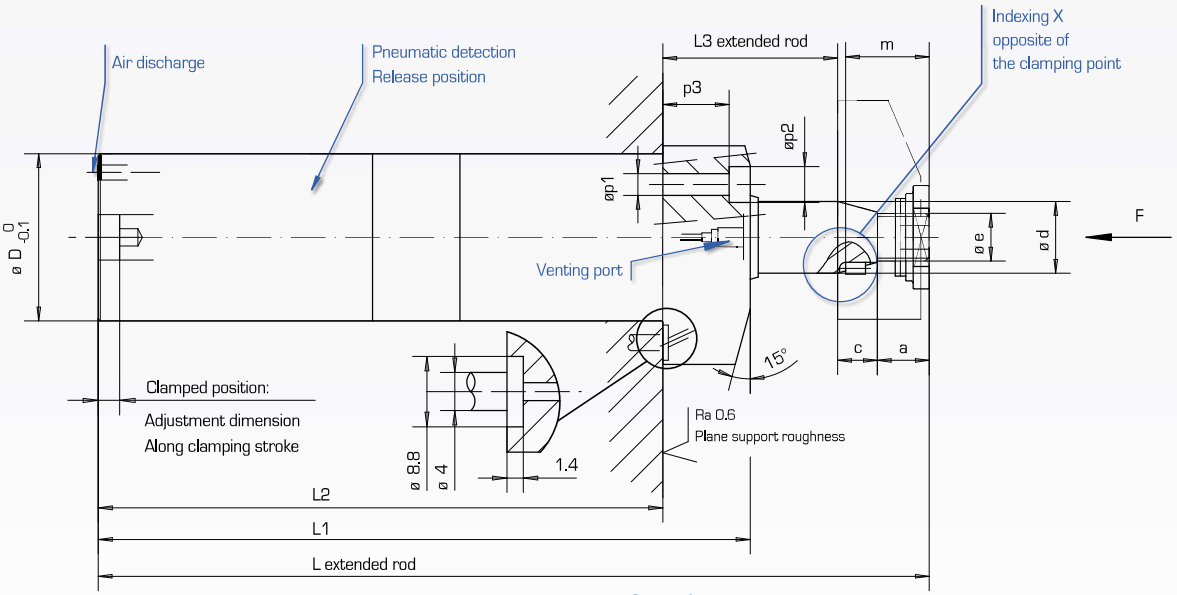
- stroke from 8 to 12 mm
- helical goove right and left rotation 90°±2°
- clamping venting port
- indexing on the rod
- maximum using pressure : 250 bar
- detection by valves with no leaks.
  Clamped and released positions on base of cylinder ajusted by a screw

Options

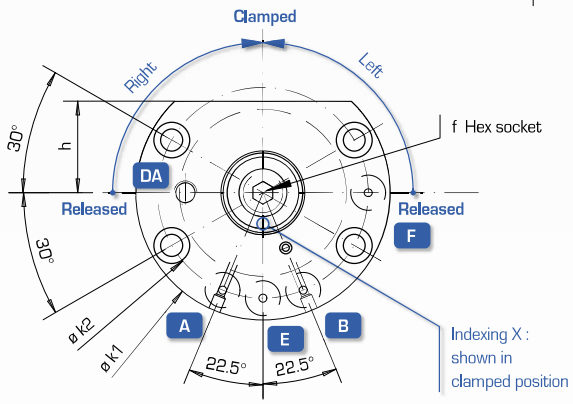
- clamping arms : see accessories heading
- rotation 60°, 45° or 0° on request

Note

Cylinders supplied with o-ring seals, locking nut and lock-washer (dimensions : see page 72).
Seals : 5.28 x 1.78 90 NBR



A = Clamping port (oil)
B = Release port (oil)
DA = Venting port
E = Clamping pneumatic detection
F = Release pneumatic detection



View along : F

Definition of forces as function of clamping arms : see pages 21 and 45
Important recommendations : see page 44

F max at 250 bar	Rod ød	Clamping stroke	Total stroke	Max flow A	Area extend A	Area extend B	Dir. of rotation	Type	Order code	Dimensions a	c	øD	e	f key	h	øk1 øk2	L	L1	L2	L3	m	p1	p2	p3
kN	mm	mm	mm	l/mn	cm³					mm	mm	mm		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
4	18	8	19	0.4	4.48	6.40	right left	HL 11 DX B12 HL 11 GX B12	191 186/050 191 186/150	13	10	42	M12 x 1.5	5	23	64 53	209	164	142	44	21	5.5	9	13
8	25	12	23	0.9	10.83	18.58	right left	HL 21 DX B12 HL 21 GX B12	191 187/050 191 187/150	16	14	52	M16 x 1.5	6	28	76 63	248	192	166	52	24	6.5	10.5	16

Swing clamp : HLF * * X B12

Double acting with helical groove
With pneumatic detection of clamped and released positions

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Supply through counter-bores under ring
Fixing using screws

Characteristics

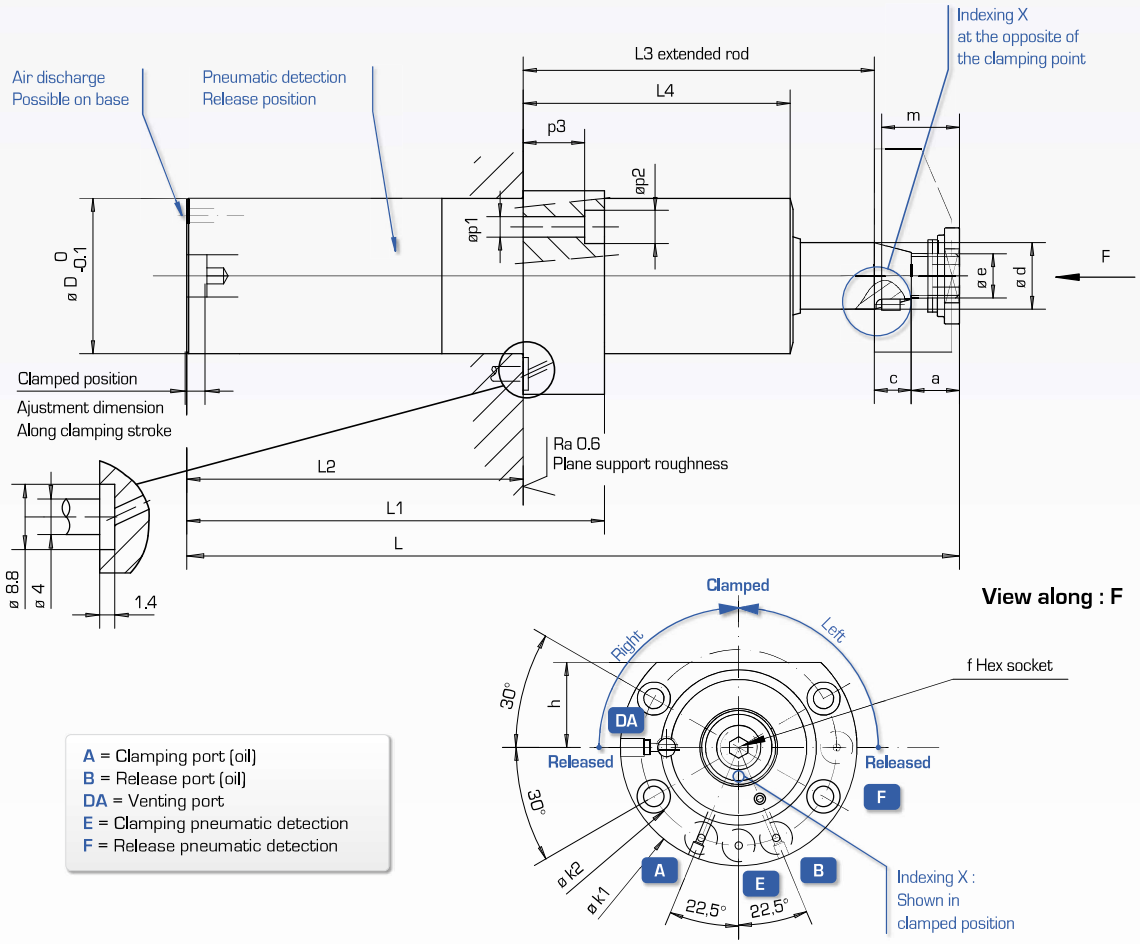
- stroke from 8 to 12 mm
- helical goove right and left rotation 90°±2°
- clamping venting port
- indexing on the rod
- maximum using pressure : 250 bar
- detection by valves with no leaks.
  Clamped and released positions on base of cylinder ajusted by a screw

Options

- clamping arms : see accessories heading
- rotation 60°, 45° or 0° on request

Note

Cylinders supplied with o-ring seals, locking nut and lock-washer (dimensions : see page 72).
Seals : 5.28 x 1.78 90 NBR



Definition of forces as function of clamping arms : see pages 21 and 45
Important recommendations : see page 44

F max at 250 bar	Rod ød	Clamping stroke	Total stroke	Max flow A	Area extend A / B	Dir. of rotation	Type	Order code	Dimensions a	c	øD	e	f key	h	øk1 / øk2	L	L1	L2	L3	L3	m	p1	p2	p3
kN	mm	mm	mm	l/mn	cm³				mm	mm	mm		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
4	18	8	19	0.4	4.48 6.40	right left	HLF 11 DX B12 HLF 11 GX B12	191 188/050 191 188/150	13	10	42	M12 x 1.5	5	23	64 53	209	115	91	95	73	21	5.5	9	13
8	25	12	23	0.9	10.83 18.58	right left	HLF 21 DX B12 HLF 21 GX B12	191 189/050 191 189/150	16	14	52	M16 x 1.5	6	28	76 63	248	138	108	110	84	24	6.5	10.5	16

Swing clamp : PL * * X A

Double acting - Rotation in a plane
With sensor rod

Supply through counter-bores under ring
Fixing using screw

Characteristics

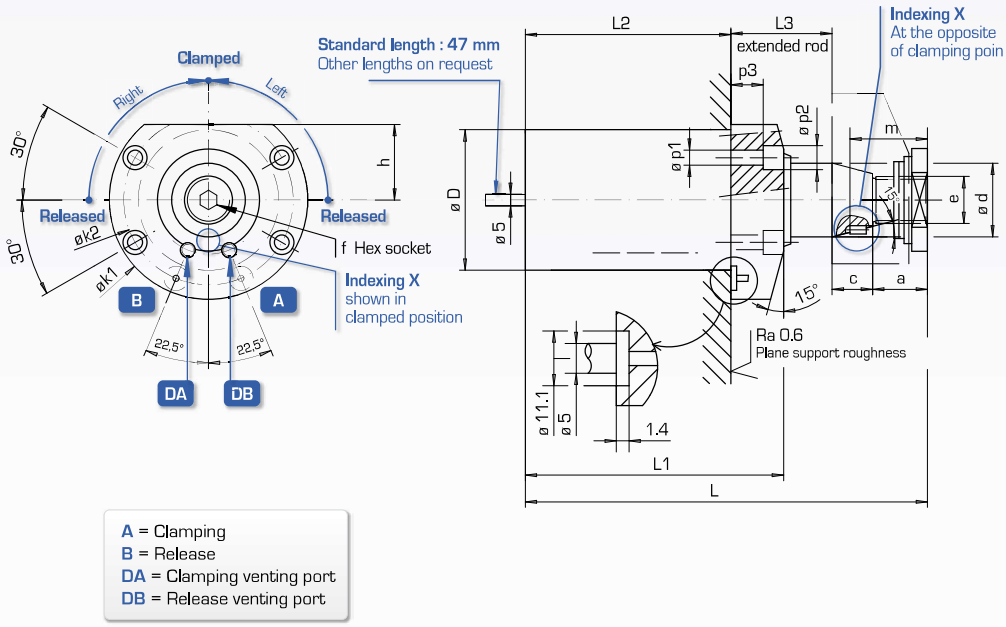
- detection by sensor rod
- rotation in plane left or right 90°±2°
- released and clamping side venting port
- indexing of the rod
- maximum using pressure : 160 bar

Options

- clamping arms : see accessories heading
- rotation 60°, 45° or 0° on request

Note

Cylinders supplied with o-ring seals, locking nut and lock-washer (dimensions : see page 72).
Seals : 7.65 x 1.78 90 NBR



A = Clamping
B = Release
DA = Clamping venting port
DB = Release venting port

Definition of forces as function of clamping arms : see page 21
Important recommendations : see page 20

F max at 160 bar	Rod ød	Stroke	Max flow A	Area extend A / B	Dir. of rotation	Type	Order code	Dimensions a	c	øD	e	f key	h	øk1 / øk2	L	L1	L2	L3	m	p1	p2	p3
kN	mm	mm	l/mn	cm³				mm	mm	mm		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
10	36	12	2	41 53	right left	PL 31 DX A PL 31 GX A	192 046/050 192 046/150	18	20	80	M24 x 1.5	10	41	110 95	211.5	158.5	130.5	43	29	8.5	14	11
15	42	12	3	74 88	right left	PL 41 DX A PL 41 GX A	192 047/050 192 047/150	20	22	93	M30 x 1.5	12	48	130 112	236	179	149	45	31	10.5	17	12

Swing clamp : PL * * X B1

Double acting - Rotation in a plane
Pneumatic detection of the released position

HYDROMECANIQUE QUIRI
www.quiri.com

Supply through counter-bores under ring
Fixing using screws

Characteristics

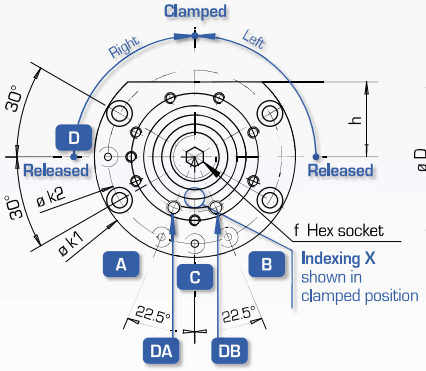
- detection by valves with no leaks, released position
- rotation in plane left or right 90°±2°
- released and clamping side venting port
- indexing of the rod
- maximum using pressure : 160 bar

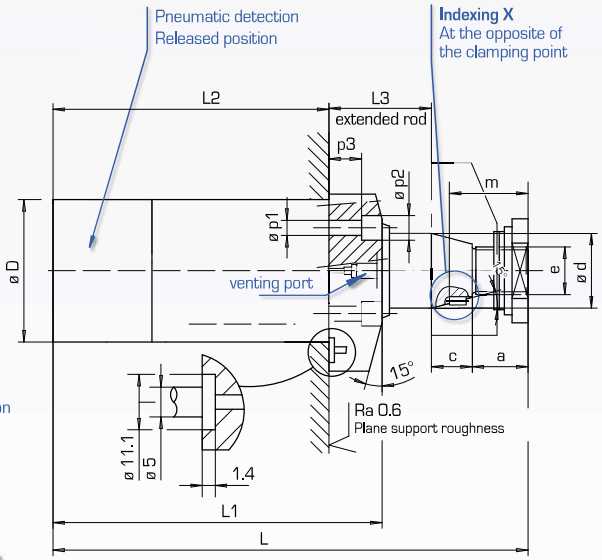
Options

- clamping arms : see accessories heading
- rotation 60°, 45° or 0° on request

Note

Cylinders supplied with o-ring seals, locking nut and lock-washer (dimensions : see page 72).
Seals : 7.65 x 1.78 90 NBR





A = Clamping
B = Release
DA = Clamping venting port
DB = Release venting port
C = Pneumatic detection of the released position
D = Air Vent

Definition of forces as function of clamping arms : see page 21
Important recommendations : see page 20

F max at 160 bar	Rod ød	Stroke	Max flow A	Area extend A / B	Dir. of rotation	Type	Order code	Dimensions a	c	øD	e	f key	h	øk1 / øk2	L	L1	L2	L3	m	p1	p2	p3
kN	mm	mm	l/mn	cm³				mm	mm	mm		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
10	36	12	2	41 53	right left	PL 31 DX B1 PL 31 GX B1	192 048/050 192 048/150	18	20	80	M24 x 1.5	10	41	110 95	242.5	189.5	161.5	43	29	8.5	14	11
15	42	12	3	74 88	right left	PL 41 DX B1 PL 41 GX B1	192 049/050 192 049/150	20	22	93	M30 x 1.5	12	48	130 112	261	204	174	45	31	10.5	17	12

Swing clamp : PL * * X B12

Double acting - Rotation in a plane
Pneumatic detection of clamped and released positions

Supply through counter-bores under ring
Fixing using screws

Characteristics

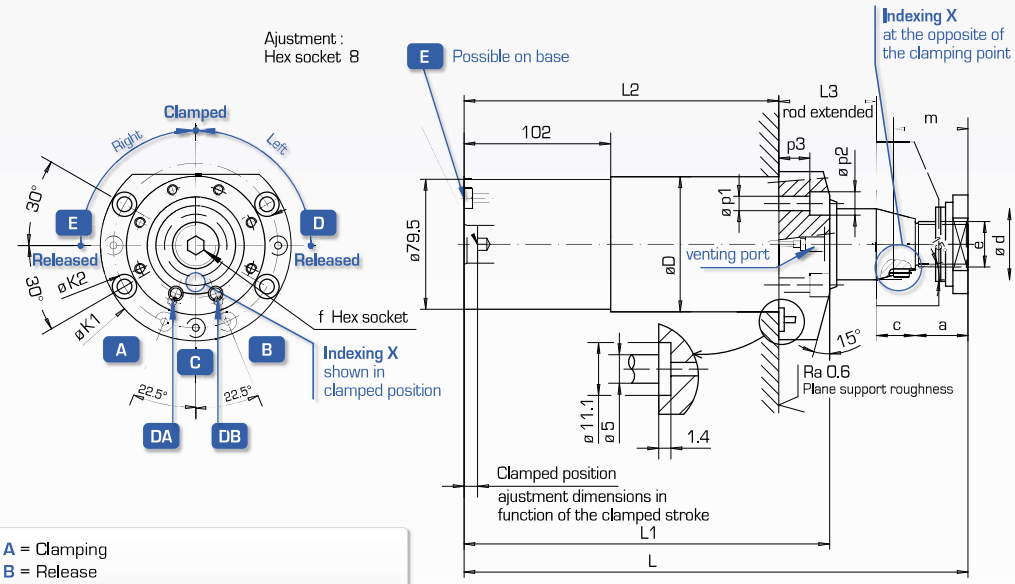
- detection by valves with no leaks.
  Clamped and released positions on base of cylinder ajusted by a screw
- rotation in plane left or right 90°±2°
- released and clamping side venting port
- indexing of the rod
- maximum using pressure : 160 bar

Options

- clamping arms : see accessories heading
- rotation 60°, 45° or 0° on request

Note

Cylinders supplied with o-ring seals, locking nut and lock-washer (dimensions : see page 72).
Seals : 7.65 x 1.78 90 NBR



A = Clamping
B = Release
DA = Clamping venting port
DB = Release venting port
C = Pneumatic detection of the released position
D = Pneumatic detection of the clamping position
E = Air discharge on ring (or on base)

Definition of forces as function of clamping arms : see page 21
Important recommendations : see page 20

F max at 160 bar	Rod ød	Stroke	Max flow A	Area extend A B	Dir. of rotation	Type	Order code	Dimensions a	c	øD	e	f key	h	øk1 øk2	L	L1	L2	L3	m	p1	p2	p3
kN	mm	mm	l/mn	cm³				mm	mm	mm		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
10	36	12	2	41 53	right left	PL 31 DX B12 PL 31 GX B12	192 142/050 192 142/150	18	20	80	M24 x 1.5	10	41	110 95	301.5	248.5	220.5	43	29	8.5	14	11
15	42	12	3	74 88	right left	PL 41 DX B12 PL 41 GX B12	192 143/050 192 143/150	20	22	93	M30 x 1.5	12	48	130 112	330	273	243	45	31	10.5	17	12

Swing clamp : PL * * D/G X E

Double acting - Rotation in a plane
Electrical position check

HYDROMECANIQUE QUIRI
www.quiri.com

Supply through counter-bores under ring
Fixing using screws

Characteristics

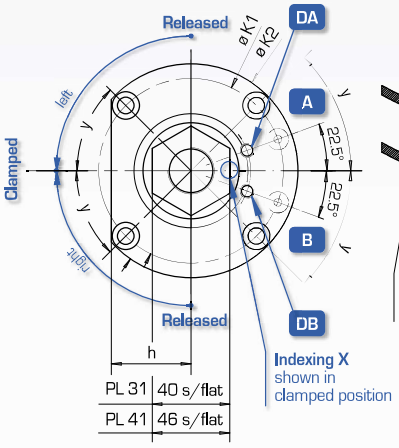
- detection using inductive sensor, released position on cylinder base
- sensor position is adjustable
- rotation in plane left or right 90°±2°
- released and clamping side venting port
- indexing of the rod
- maximum using pressure : 160 bar

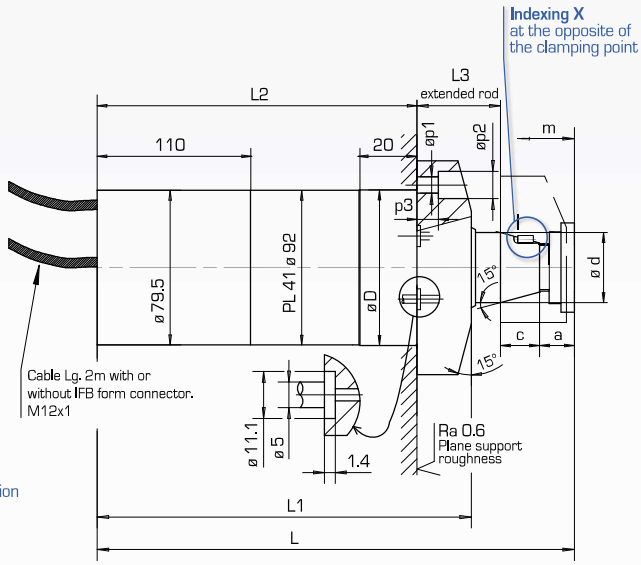
Options

- clamping arms : see accessories heading
- rotation 60°, 45° or 0° on request

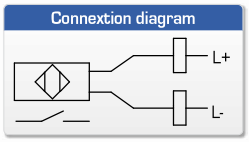
Note

Cylinders supplied with o-ring seals, locking nut and lock-washer (dimensions : see page 72).
Seals : 7.65 x 1.78 90 NBR





A = Clamping
B = Release
DA = Clamping venting port
DB = Release venting port



Definition of forces as function of clamping arms : see page 21
Important recommendations : see page 20

F max at 160 bar	Rod ød	Stroke	Max flow A	Area extend A / B	Dir. of rotation	Type	Order code	Dimensions a	c	øD	e	f key	h	øk1 / øk2	L	L1	L2	L3	m	p1	p2	p3	y
kN	mm	mm	l/mn	cm³				mm	mm	mm		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	°
10	36	12	2	41 53	right left	PL 31 DX E PL 31 GX E	192 026/050 192 026/150	18	20	80	M24 x 1.5	10	41	110 95	319	266	238	43	29	8.5	14	11	45
15	42	12	3	74 88	right left	PL 41 DX E PL 41 GX E	192 146/050 192 146/150	20	22	93	M30 x 1.5	12	48	130 112	338	281	251	45	31	10.5	17	12	30

Swing clamp : PL 21 D/G XH

Double acting - Rotation in a plane
Hydraulic control position

Definition

This double acting swing clamp includes a hydraulic position check system. The cylinder includes a pressure limiter which closes at a pre-defined pressure.

This system allows the position of the component to be checked before the machining cycle starts.

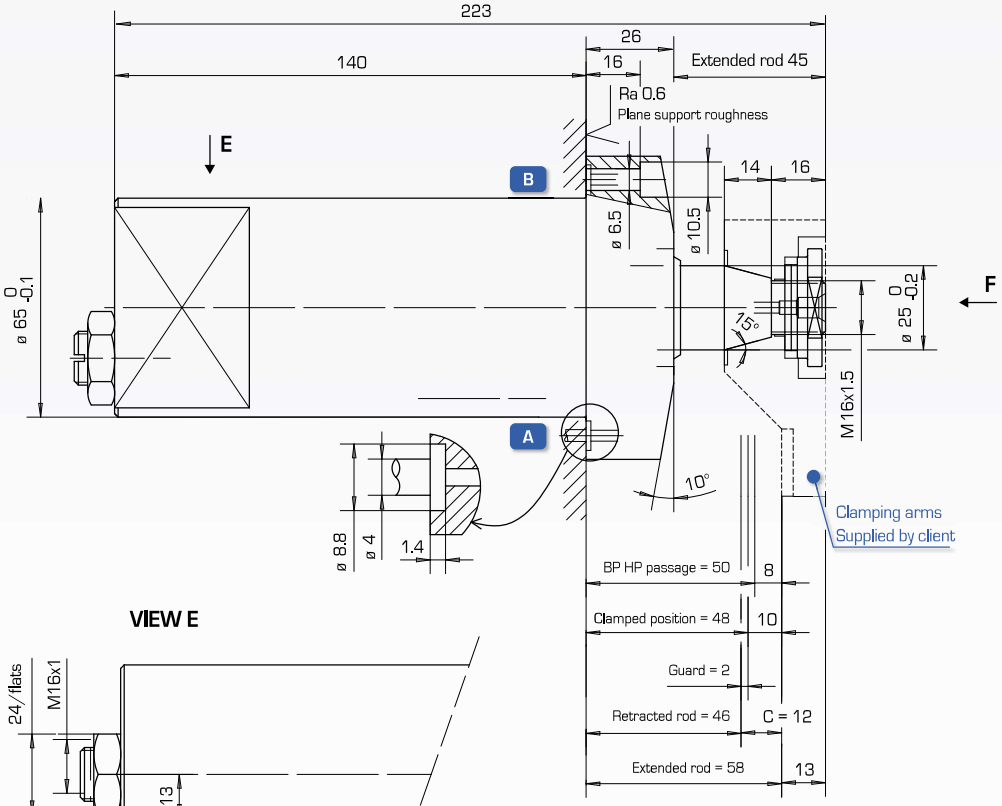
This check is carried out without any additional circuits electrical connections, thus reducing the risk of breakdown and fitting costs.

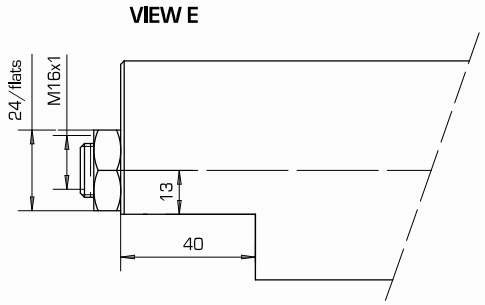
Characteristics

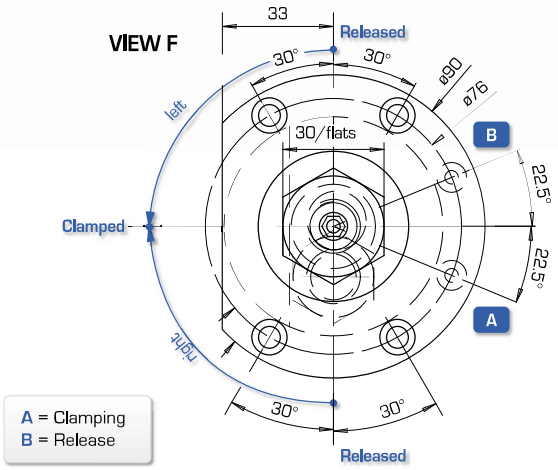
- clamping arm, see accessories heading
- rotation in plane left or right 90°±2°
- other angles of rotation on request
- rod indexing **X** in option (see page 73)
- maximum using pressure : 160 bar

Note

Cylinders are supplied with o-ring seals, lock nut, lock-washer (dimensions and tightening torque : see page 72).
Seals : or 5.28 x 1.78 90 NBR







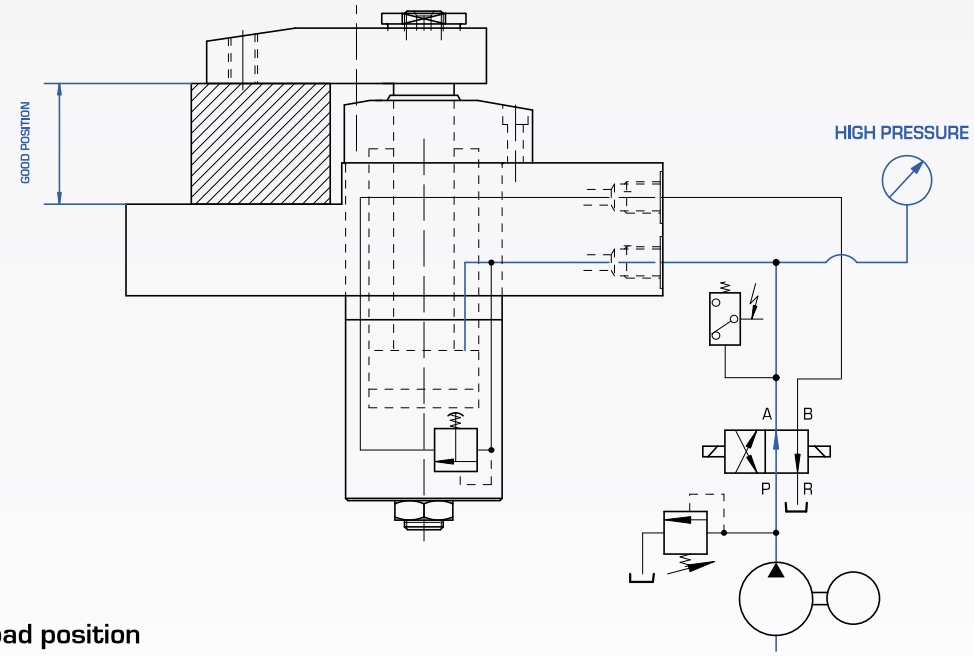
Definition of forces as function of clamping arms : see page 21
Important recommendations : see page 20

Direction of rotation	Type	Order code	Indexing
right left	PL 21 D H PL 21 G H	191 113/000 191 113/100	NO
right left	PL 21 D HX PL 21 G HX	191 113/050 191 113/150	YES

Pivoting cylinders with hydraulic control position allow to check the right position of the component before the machining cycle start. This check is carried out without any additional circuit.

The component is in the good position

- the cylinder clamps the component in the pre-defined position
- the circuit raises the normal clamping pressure
- the pressure valve switches
- the machining cycle can start



The component is in bad position

- the cylinder clamps the component in a different position as the pre-defined one
- the circuit stays in low pressure
- the pressure valve does not switch
- the machining cycle can not start