

Swing cylinders - Collet-Lok® design

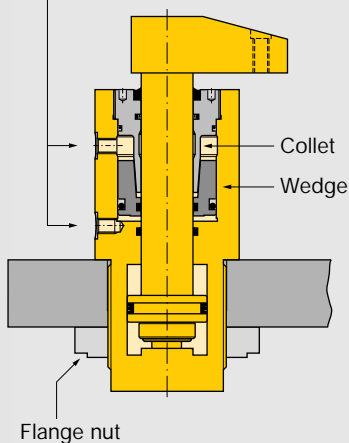
Shown: MPFR-100, MPTR-100



MP series

Enerpac Collet-Lok® cylinders are designed to mechanically hold the workpiece after hydraulic pressure is removed. Clamping capacities range from 4,4 kN to 37,8 kN.

BSPB oil connection



Hydraulic pressure pushes the collet up a wedge, locking the plunger in the clamping position.

■ Lower flange Collet-Lok® swing cylinder mounted on a pallet.



Ideal when live hydraulics are not available

...clamping is maintained mechanically so live hydraulics are not required during the machining cycle

- Double acting Collet-Lok® action allows fully automated operation
- Additional level of safety since live hydraulics are not required
- Collet-Lok® swing cylinders can either be mounted by the flange, or threaded into the fixture

Product selection

Clamping force ¹⁾ kN	Stroke mm		Left turning 90° 	Right turning 90° 	Cylinder effective area cm ²		Oil capacity cm ³		Max. oil flow ¹⁾ l/min	Standard clamp arm Sold separately □ 24 ▶
	Clamp.	Total			Clamp	Un-clamp	Clamp	Un-clamp		
▼ Lower flange										
			Model number							
4,4	8	24	MPFL-50	MPFR-50	1,61	4,58	3,93	10,98	2	MA-540
8,9	12	28	MPFL-100	MPFR-100	3,22	7,16	9,01	19,99	5	MA-1050
37,8	10	42	MPFL-300	MPFR-300	13,23	22,25	55,71	93,41	10	MA-3070
▼ Threaded body										
			Model number							
8,9	12	28	MPTL-100	MPTR-100	3,22	7,16	9,01	19,99	5	MA-1050
37,8	10	42	MPTL-300	MPTR-300	13,23	22,25	55,72	93,41	10	MA-3070

¹⁾ Using standard clamp arm.
Clamp arms are sold separately (□ 10, 24).

Note: - Call Enerpac for models with imperial thread and SAE port connections.
- Minimum working pressure for Collet-Lok® system is 100 bar.

Collet-Lok® sequence

Step 1
Pressurize port #1.
Plunger turns 90° and clamps part.

Step 2
Keep port #1 pressurized.
Pressurize port #2.
Plunger will be locked in clamped position.

Step 3
Depressurize port #1 and #2.
Uncouple cylinder from hydraulic power source.
Part will be held in place.

Step 4
Pressurize port #3.
Plunger will be unlocked and the clamp force released.

Step 5
Keep port #3 pressurized.
Pressurize port #4.
Plunger will extend and turn to its original position.

Product dimensions in mm [⌀]

Left turning models	A	B	C	C1	D ∅	D1 ∅	F ∅	H1	H2	H3
▼ Lower flange										
MPFL-50	201	177	171	25	58	85	19	10	12,7	-
MPFL-100	223	195	193	25	68	100	22	10	12,7	-
MPFL-300	321	280	275	25	90	132	35	11	12,7	-
▼ Threaded body										
MPTL-100	213	185	121	90	M48 x 1,5	70	22	31	66,8	75,2
MPTL-300	310	268	163	115	M80 x 2	93	35	38	91,4	100,6

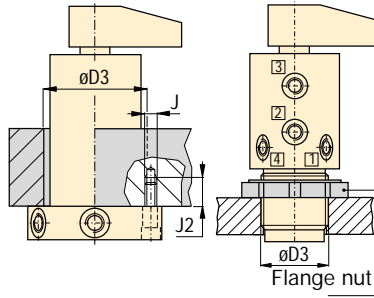
Note: Dimensions shown with standard clamp arm.



A Installation dimensions
in mm

Clamping force ¹⁾ kN	Fixture hole øD3	Mounting Thread J	Minimum depth J2
▼ Lowerflange			
4,4	58,4 ±0,3	M6 x 1	18
8,9	68,6 ±0,3	M8 x 1,25	19
37,8	90,5 ±0,3	M10 x 1,5	19
▼ Threaded body			
8,9	M48 x 1,5	-	-
37,8	M80 x 2	-	-

¹⁾ With standard clamp arm.

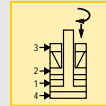


Oil port functions

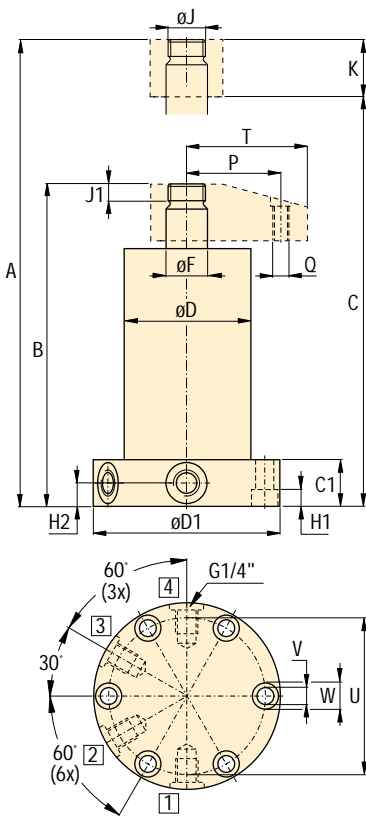
- 1 90° Rotation and Clamp
- 2 Locks system
- 3 Unlocks system
- 4 Unclamp and 90° rotation

Force: 4,4 - 37,8 kN
Stroke: 24 - 42 mm
Pressure: 100 - 350 bar

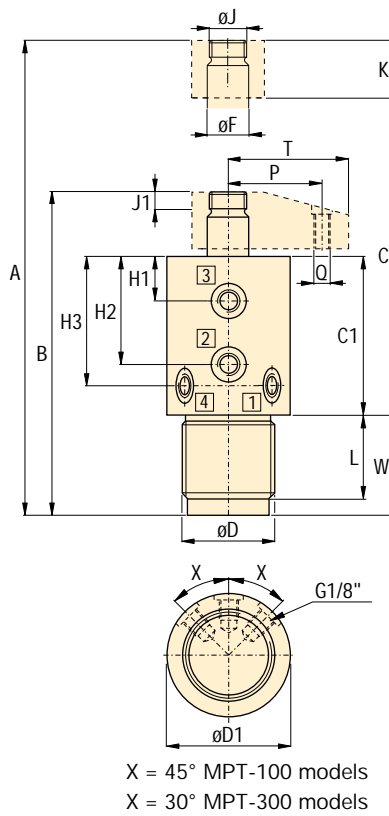
- E** Cilindros giratorios
- F** Vérins de bridage pivotants
- D** Schwenkspannzylinder



MPF models



MPT models



X = 45° MPT-100 models
X = 30° MPT-300 models

FMS Flexible Machining Systems
See Yellow Pages (136)

Options

- Clamp arms** 24 ▶
- Positive locking work supports** 34 ▶
- Positive clamping cylinders** 62 ▶
- Auto couplers** 100 ▶
- Sequence valves** 92 ▶
- Accessories** 68 ▶

	J	J1	K	L	P	Q	T	U	V	W	kg	Right turning models
Lower flange ▼												
M16x1,5	8	30	-	40	M8x1,25	54	70	9	14	2,3	MPFR-50	
M20x1,5	9	30	-	50	M10x1,5	64	84	9	14	3,5	MPFR-100	
M33x2	10	47	-	70	M16x2	93	112	11	14	12,0	MPFR-300	
Threaded body ▼												
M20x1,5	9	30	41	50	M10x1,5	64	-	-	30	3,0	MPTR-100	
M33x2	10	47	85	70	M16x2	93	-	-	30	11,0	MPTR-300	

Important

For proper application, clamp forces, pressures and timing consult Enerpac for support.