

TOX®-Robot Tongs Powerpackage Type RZ with enhanced precision and adjustable flange mounting

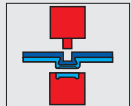
Series RZK, RZS, RZH



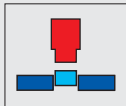
Data sheet 10.08

2011/05

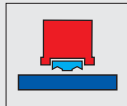
Typical applications:



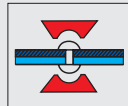
Clinching, TOX®-sheet metal joining



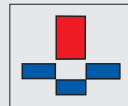
Assembling, Press-fitting, Mounting



Inserting, Fastener-Insertion



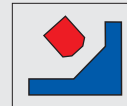
Riveting, Crimping, Flaring



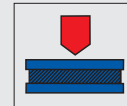
Punching, Piercing



Coining, Marking, Stamping



Clamping, Tensioning, Peening



Pressing, Compressing, Bending

The pneumohydraulic TOX®-Powerpackage in the robot tongs version is also equipped with the well proven power bypass and end position damping. The cylinders can be operated in any position.

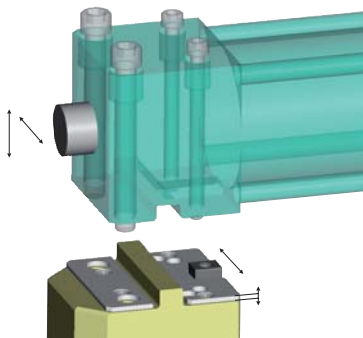
The precise guidance of the working piston makes it possible to use these drives, without the usually recommended rail guide block, for the TOX® clinching process or for punching. Of course, other applications are also possible.

For types RZK and RZS, the valve block ZVX is always mounted, as shown on the following pages. Additional accessories can be found in data sheet 10.00.

A complete line of press frames and controls is available to complement these cylinders. Additional information can be found in the TOX®-Presses and TOX®-Tongs catalogs.



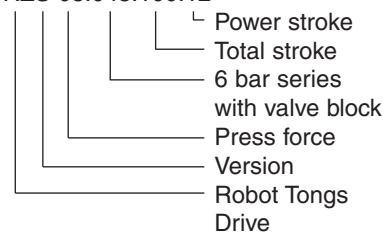
Flange mounting and adjustment for precision



The precisely fitting (H7) keyways on the mounting surface of the TOX®-Powerpackage type RZ enable an exact alignment of the drive in both directions perpendicular to the stroke direction. The position of the drive can be adjusted on the mounting surface with the help of shims and the key.

Ordering example:

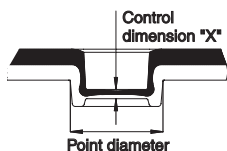
RZS 08.043.100.12



TOX®-Powerpackage Type RZK

For CAD downloads,
please visit us at:
www.tox-en.com

Advantages of RZK



Adjustment of the total stroke on the RZK, e.g. for the X dimension in clinching, is done directly over an adjustable collar of the RZK cylinder.

The end position can be detected with a sensor for the X dimension, which is mounted on the end cap of the RZK.

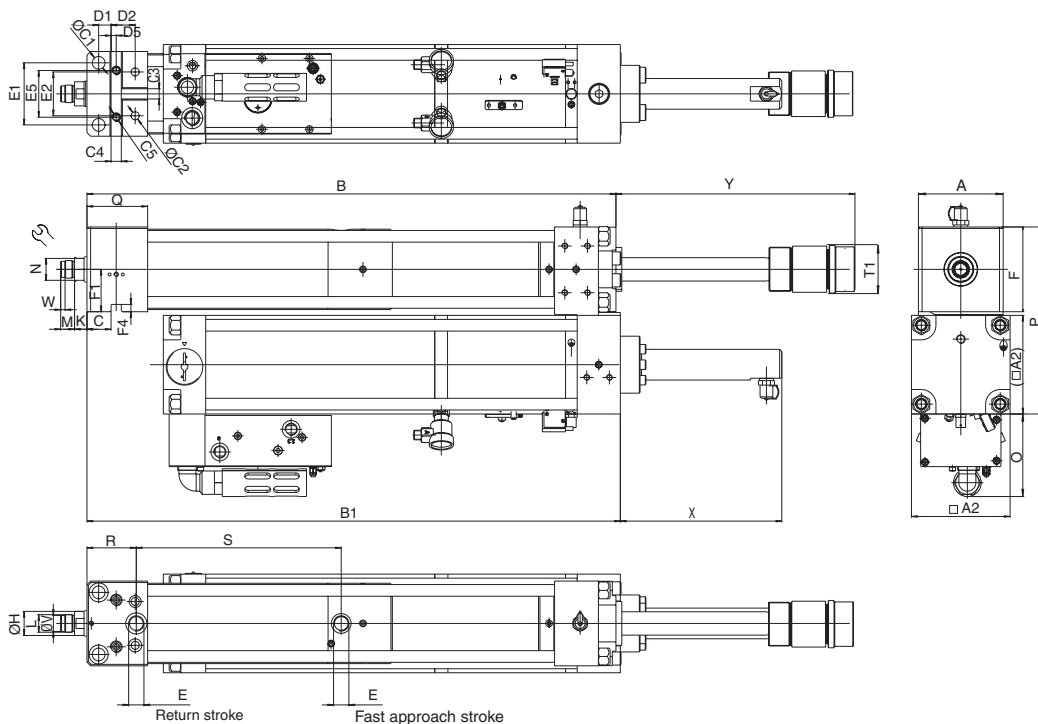
Standard execution:

Includes air spring, power bypass ZLB, hydraulic return stroke damping ZHD, defined end position stop, manually switchable power stroke valve, threads on working rod to match TOX® strip-

pers, precision mounting flange for TZ-Tongs. Valve block includes approach stroke assist, air spring regulator and throttle "X". Requires only pneumatic approach and return connections.

Series:

44: with total stroke limiter 90 – 100 mm
45: with total stroke limiter with 50 mm travel
Adjustment (version 45 is available only for 200 mm stroke cylinder).



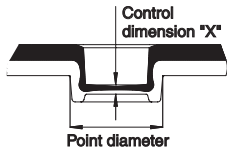
Order no.	Total stroke	Included power stroke	Max. press force at 6 bar air pressure [kN]	Approach force at 6 bar [N]	Return force at 6 bar [N]	A	A2	B	B1	C	C1	C2	C3 ^{H7}	C4 ^{H7}	C5	D1	D2	D5	E	E1	E2	E5
RZK 05.44.100.07	100	7	52,1	1320	1890	85	110	542	542	27	13	9	14	14	M12	15	29	7	G1/4	60	50	55
RZK 05.45.200.12	200	12	52,1	1320	1890	85	110	695	695	27	13	9	14	14	M12	15	29	7	G1/4	60	50	55
RZK 08.44.100.08	100	8	82,4	2710	3570	116	135	577	583	33	17,5	11	14	14	M12	17	33	7	G1/2	85	60	64
RZK 08.45.200.12	200	12	82,4	2710	3570	116	135	724	730	33	17,5	11	14	14	M12	17	33	7	G1/2	85	60	64

Dimensions in mm

Order no.	F	F1 ^{±0,02}	F4	H	K	L	M	N	P	O	Q	R	S	T1	V ₂₅	W	X	Y
RZK 05.44.100.07	90	45	9	30	18	M24x1,5	19	SW24	202,5	113	77	62	217	56	22	6	109	171,5
RZK 05.45.200.12	90	45	9	30	18	M24x1,5	19	SW30	202,5	113	77	62	271	65	22	6	222,5	301,5
RZK 08.44.100.08	116	85	10	35	17	M24x1,5	19	SW24	256	113	83	67,5	233,5	65	22	6	125	172,5
RZK 08.45.200.12	116	85	10	35	17	M24x1,5	19	SW30	256	113	83	67,5	280,5	65	22	6	221	312,5

TOX®-Powerpackage Type RZS

Advantages of RZS



Adjustment of the stroke for the RZS, e.g. for the X dimension in clinching, is done at the TOX® tooling using precision ground shim plates. No adjustment is available directly on the RZS. If needed, then please select either cylinder type RZK or RZH.

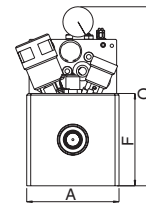
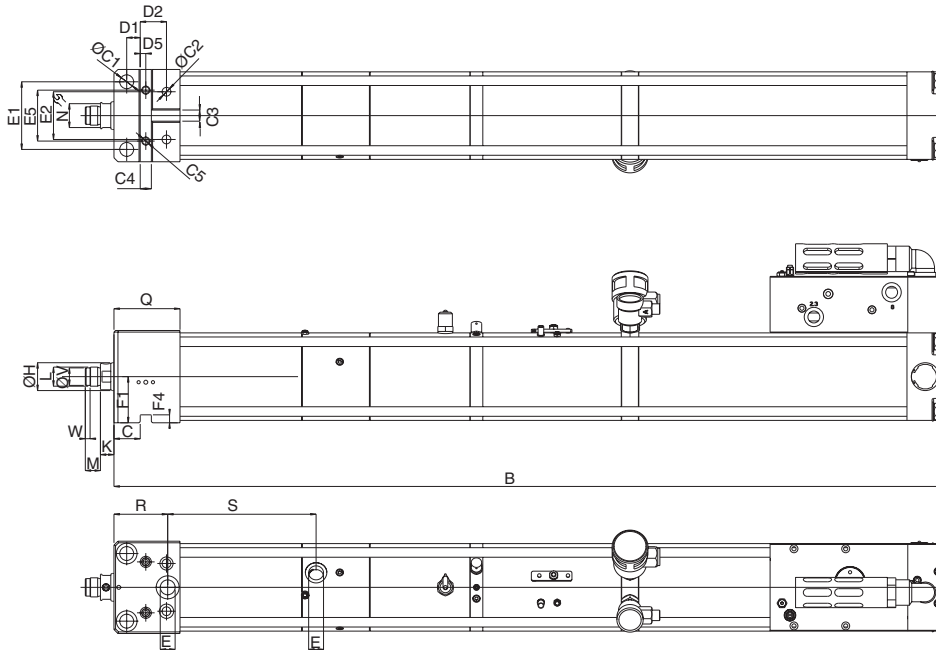
The RZS can be used for the TOX® clinching process or for punching of round contours. A damping system to reduce cutting impact is always recommended. In this case, the damping should be integrated in the tooling.

Standard execution:

Includes air spring, power bypass ZLB, hydraulic return stroke damping ZHD, defined end position stop with damping, threads on working rod to match TOX® strippers, precision mounting

flange for TZ-Tongs. Valve block includes approach stroke assist, air spring regulator and throttle "X". Requires only pneumatic approach and return connections.

Switch for X dimension can be mounted on working rod. Prepared for mounting of position sensing (ZHU) or travel sensing (ZHW).



Order no.	Total stroke [mm]	Included power stroke [mm]	Max. air pressure [bar]	Max. press force [kN]	Approach force [N]	Return force [N]	A	B	C	C1	C2	C3 ^{H7}	C4 ^{H7}	C5	D1	D2	D5	E	E1	E2	E5
RZS 05.043.100.07	100	7	6,0	55,4	1325	826	85	1031,5	27	13	9	14	14	M12	15	29	7	G 1/4	60	50	55
RZS 08.043.100.07	100	7	5,2	84,2	2352	1529	116	1042,5	33	17,5	11	14	14	M12	17	33	7	G 1/2	85	60	64

Dimensions in mm

Order no.	F	F1 ^{+0.02}	F 4	H	K	L	M	N	O	Q	R	S	V ₉₆	W
RZS 05.043.100.07	90	45	9	30	18	M24x1,5	19	SW 24	190	77	62	184	22	6
RZS 08.043.100.07	116	58	10	35	17	M24x1,5	19	SW 30	225	83	67,5	186,5	22	6

Recommended accessories:

• End position monitoring

These TOX®-Powerpackages are equipped with a magnet on the working rod and a special barrel. Sensors can be mounted on the tie rods to monitor the cylinder **rod position**. Please order the position sensing

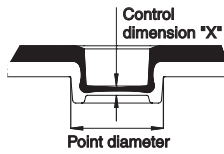
option (ZHU) or the travel sensing option (ZHW) separately.

- In conjunction with a **TOX® process monitoring system** and corresponding accessories, an inquiry of the X dimension is possible for clinching processes.

The comprehensive TOX®-Powerpackage and accessories program, as well as the technical data on the stroke monitor ZHU are shown in the data sheet 10.00.

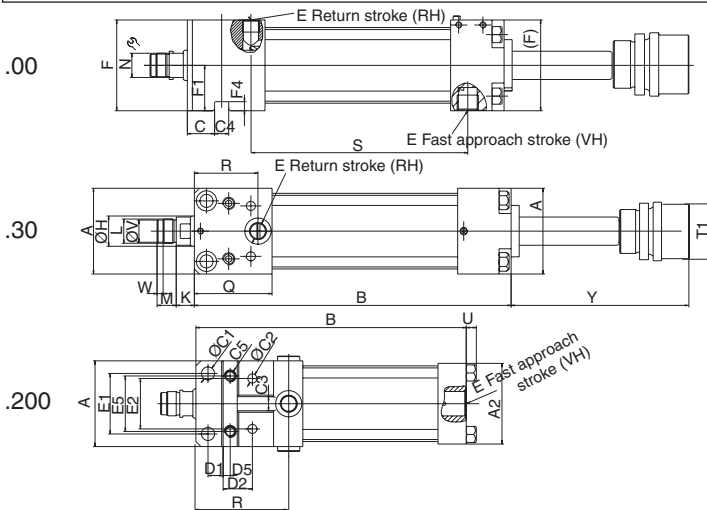
TOX®-Powerpackage Type RZHL and RZHO

Advantages of RZH



Adjustment of the total stroke on the RZH, e.g. for the X dimension in clinching, is done directly over an adjustable collar of the RZH cylinders series 00 and 30. For RZH series 200, the adjustment is done at the TOX® tooling using shim plates.

Note: hydraulic pressure to the RZH cylinder can be supplied by a hydraulic unit or one of our TOX® pneumohydraulic intensifiers. The type of pressure media used for the return stroke determines the type of cylinder: a RZHL for air return, or a RZHO for oil return (for additional information, see TOX®-Pneumohydraulic KT catalog).



Standard execution:

Threads to match TOX® strippers, precision mounting for TZ-Tongs. When ordered by itself, no guarding is provided (like version 151 for HZ), prepared for X dimension switch.

Series:

00: with total stroke limiter 10 mm range

30: with total stroke limiter 50 mm range

200: with 50 mm travel without adjustment, 4 return ports (90°), axial approach port for RZHx05 and radial for RZHx08.

Order no.	Stroke	Press force max. (at oil pressure) [kN]	Approach force at 6 bar [N]	Return force at 6 bar [N]	Max. return force for oil/oil operation [kN]	A	A2	B	C	C1	C2	C3 ^{H7}	C4 ^{H7}	C5	D1	D2	D5	E (RH)	E (VH)	E1	E2	E5
RZHx 05.200.050	50	55,8 (175 bar)	1550	800	25	85	80	268	27	13	9	14	14	M12	15	29	7	G3/8	G3/4	60	50	55
RZHx 05.00.100	100	64 (250 bar)	1240	870	25	85	-	314	27	13	9	14	14	M12	15	29	7	G3/8	G1/2	60	50	55
RZHx 05.30.200	200	64 (250 bar)	1240	870	25	85	-	414	27	13	9	14	14	M12	15	29	7	G3/8	G1/2	60	50	55
RZHx 08.200.050	50	90 (200 bar)	2250	1260	25	116	90	301	33	17,5	11	14	14	M12	17	33	7	G1/2	G3/4	85	60	64
RZHx 08.00.100	100	92,5 (250 bar)	1480	1370	25	116	-	330	33	17,5	11	14	14	M12	17	33	7	G1/2	G3/4	85	60	64
RZHx 08.30.200	200	92,5 (250 bar)	1480	1370	25	116	-	430	33	17,5	11	14	14	M12	17	33	7	G1/2	G3/4	85	60	64

Order no.	Type	F	F1±0.02	F4	H	K	L	M	N	Q	R	S	T1	U	V ₉₅	W	Y
RZHx 05.200.050		90	45	9	30	18	M24x1,5	19	SW24	77	92	-	-	10	22	6	-
RZHx 05.00.100		90	45	9	30	18	M24x1,5	19	SW24	77	63	215	56	-	22	6	174,5
RZHx 05.30.200		90	45	9	30	18	M24x1,5	19	SW24	77	63	315	56	-	22	6	314,5
RZHx 08.200.050		116	58	10	35	17	M24x1,5	19	SW24	123	104,5	137,5	-	-	22	6	-
RZHx 08.00.100		116	58	10	35	17	M24x1,5	19	SW24	83	64,5	224,5	65	-	22	6	184,5
RZHx 08.30.200		116	58	10	35	17	M24x1,5	19	SW24	83	64,5	324,5	65	-	22	6	324,5

Dimensions in mm

Caution:

Observe max. return force. Max. pressure 250 bar.

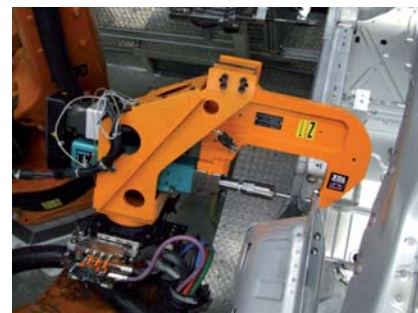
TOX®-Electric Power Module EPMR



We also offer a RZ version of our TOX®-ElectricDrive servo spindles called EPMR. Same as for all our electromechanical drives, the type EPMR comes as a complete set with the spindle, controller, cables, ballast resistor and the complimentary TOX®-softWare.

The TOX®-Robot Tongs with EPMR drive are mounted to robots as 7th axis and are programmed for this application (see TOX®-ElectricDrive catalog).

TOX® in Action



TOX®-Drives type RZ are ideal for robot tongs!