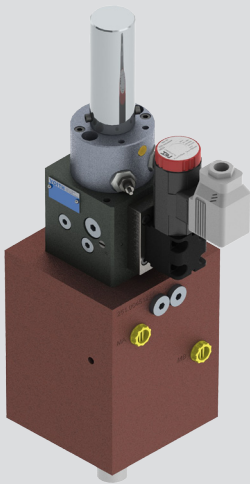


Hydraulic Punch Drive BWSE NG 10



Design and Function

BWSE is a modular built hydraulic actuator. The direct attachment of the control valve to the cylinder block offers a compact design and optimum power density. The hydro-mechanical control loop makes the BWSE a highly dynamic linear actuator and at the same time simple and robust design.

The stroke length and the stroke position of the cylinder can be set at the control valve mechanically. The stroke is initiated by an electrically controlled, fast switching solenoid.

Features

- the stroke position (TDC) is independently adjustable
- the stroke length is mechanically adjustable to meet the machine demands
- the piston acceleration and deceleration is smooth and controlled
 - big moving masses may be handled.
 - mechanical stress for BWSE and machine structure is reduced
- the target speed is independent of load and reproducible
- the load variations on the cylinder are compensated steadily
- very dynamic performance, even for high load forces and large mass load
- any ram positioning is with closed loop compensation, no hard stops being used
- positioning is fast, yet smooth
- high process safety, increased availability and dynamics
- proximity switches E1 and E2 for stroke management are integrated
 - trip points are factory set, no need for user adjustments
- the integrated electronic pulse generator offers easy stroke management
- reduction in pressure peaks through continuous control and thus relieve the sealing elements
- energy savings through accurate and user-friendly adaptation of the working stroke

Scope of Delivery

- hydraulic cylinder, optimized for punching and shearing applications
- control valve with integrated proximity switches
- electronic pulse generator for valve control

Options

- linear actuator with control valve for 3-way operation suitable for systems with large moving foreign masses
- non-standard stroke lengths
- valve for holding the cylinder in top position

Technical Data

General

Ram force	10 to 400 kN (standard design)
Retraction force	ca 50% ram force
Ambient temperature	-5 to +50 °C
Mounting position	any

Hydraulic characteristics

Operating pressure	max. 210 bar
Flow	max. 95 l/min
Fluid temperature	-10 to +70 °C
Viscosity range	10 to 300 mm ² /s

Electric characteristics

Control	electronic pulse generator data sheet 914
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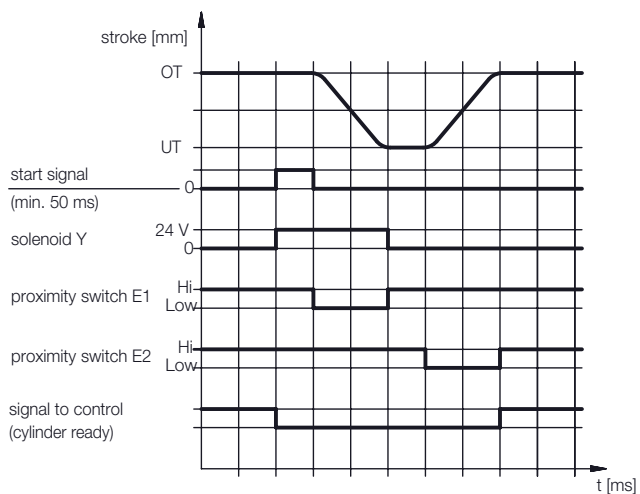
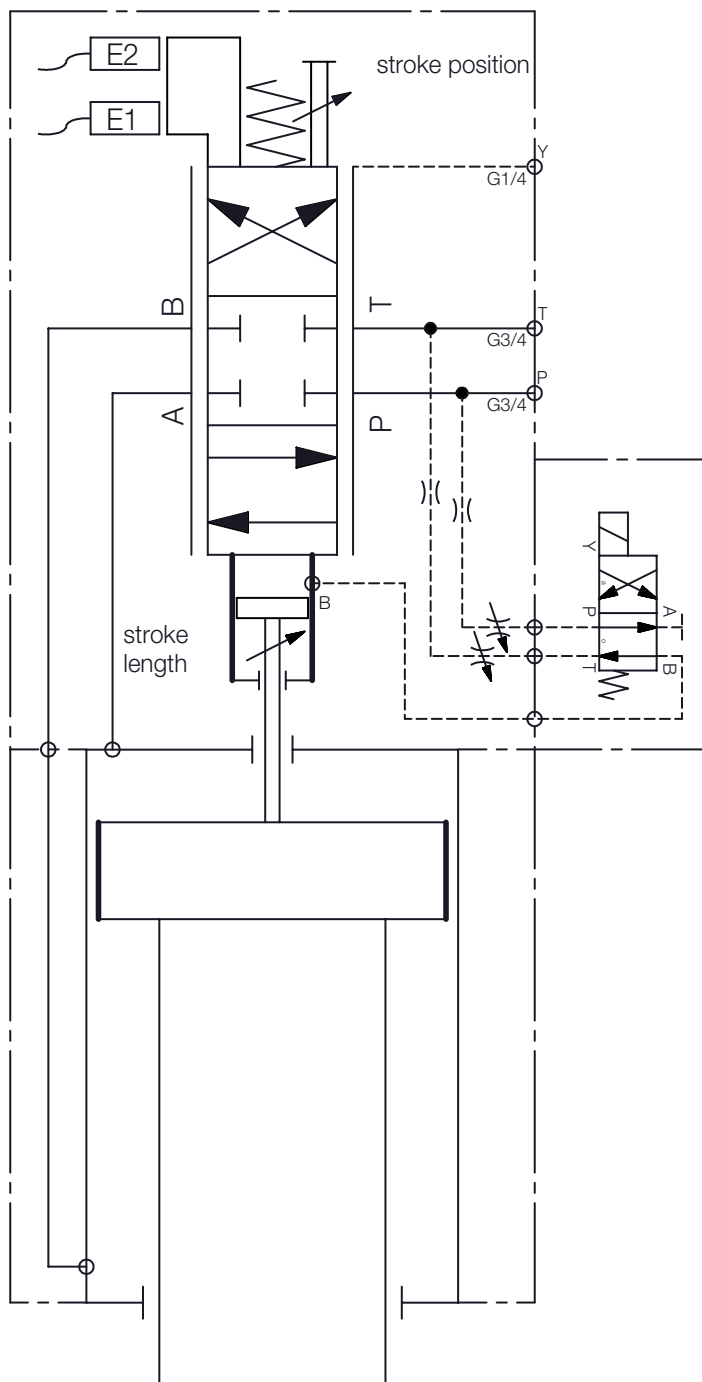
Applications

- pre punching plant / line punching plant
- trash hacker
- ejector
- machines and plants for stamping

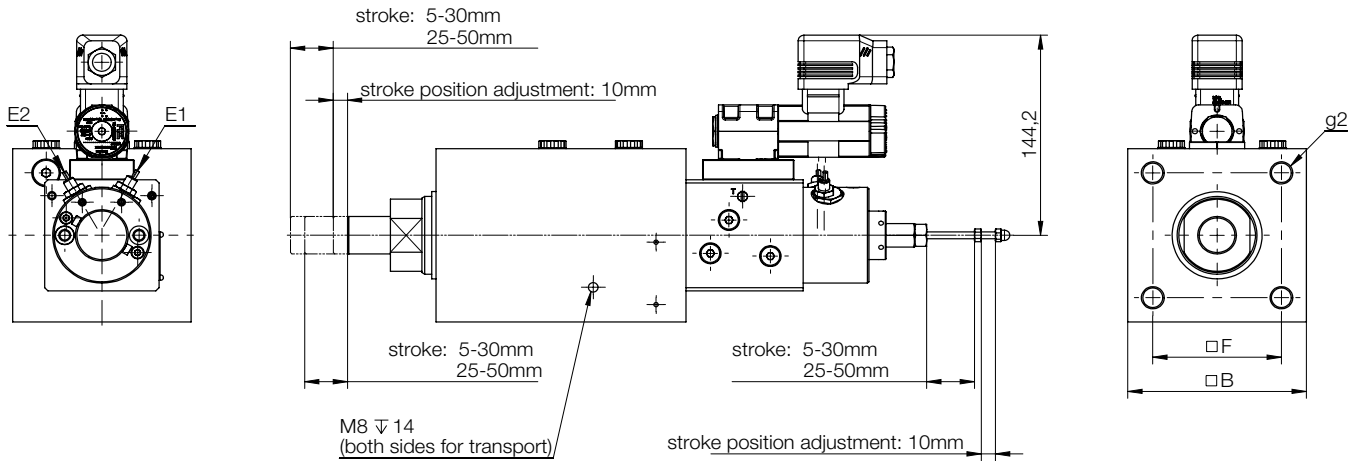
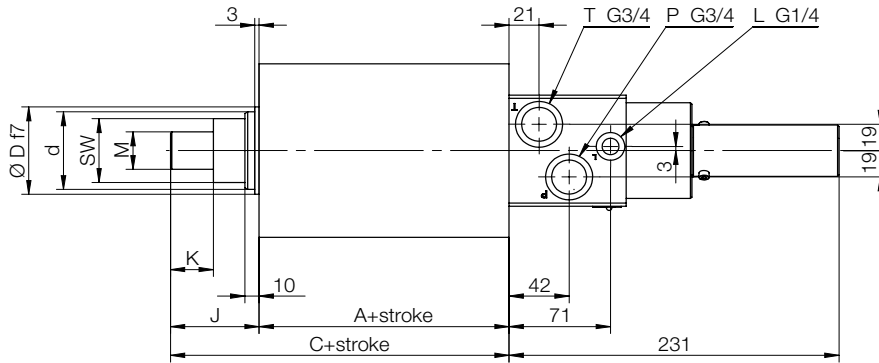
Examples of applications

Application	Specific performance characteristics
pre punching plant	punching force: 150 kN total cycle time at 10 mm stroke: 235 ms
trash hacker in press plant	cutting force: 60 kN total cycle at 6 mm stroke: 75 ms

Diagram



Basic Dimensional Drawing BWSE NG 10



Ø D	Ø d	F _{max} [kN]	A	B	C	F	J	K	M	g2	SW
40	28	20	100	75	144	55	44	30	M20x1,5	4x M10	22
50	35	35	108	90	163	65	55	35	M27x2	4x M12	27
63	45	55	130	105	192	70	62	42	M30x2	4x M16	36
80	56	90	145	125	220	90	75	50	M42x2	4x M16	46
100	70	140	190	150	280	110	90	60	M48x2	4x M20	60

other cylinder dimensions on request

all dimensions in mm

F_{max} depends on the configured operating pressure

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