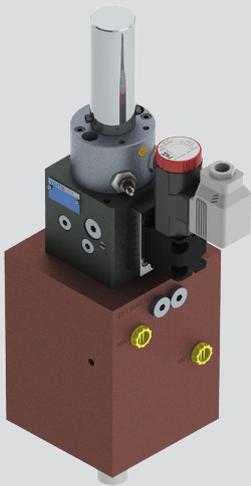


Hydraulic Punch Drive BWSE NG 10 Technical Data Sheet



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 is 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
- 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
- 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

Applications

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

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 | approx. 50% ram force |
|------------------|-----------------------|

| | |
|---------------------|--------------|
| Ambient temperature | -5 to +50 °C |
|---------------------|--------------|

| | |
|-------------------|-----|
| Mounting position | any |
|-------------------|-----|

Hydraulic characteristics

| | |
|--------------------|--------------|
| Operating pressure | max. 210 bar |
|--------------------|--------------|

| | |
|-------------------|---------------|
| Fluid temperature | -10 to +70 °C |
|-------------------|---------------|

| | |
|-----------------|------------------------------|
| Viscosity range | 10 to 300 mm ² /s |
|-----------------|------------------------------|

Electric characteristics

| | |
|---------|---|
| Control | electronic pulse generator data sheet 914 |
|---------|---|

Examples of applications

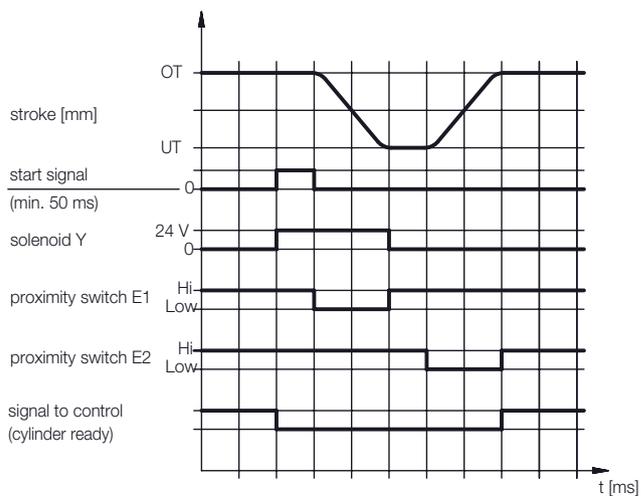
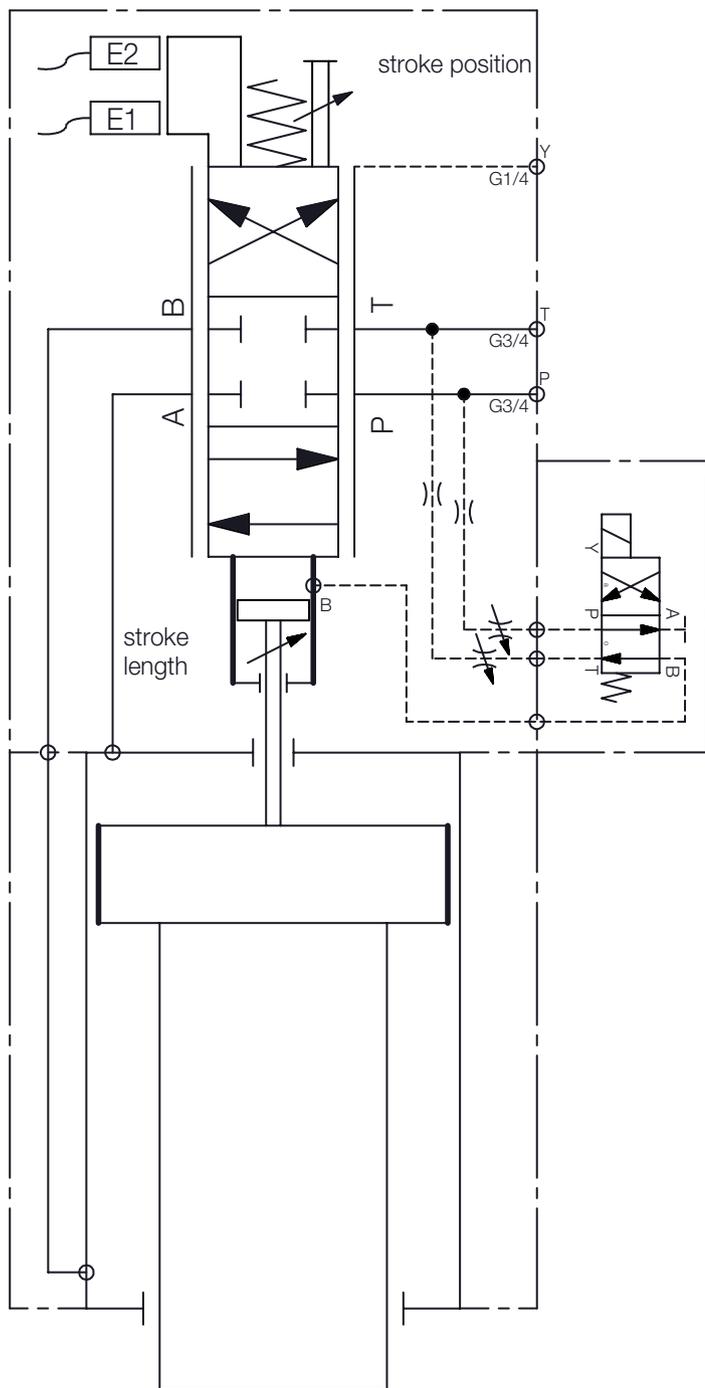
Application

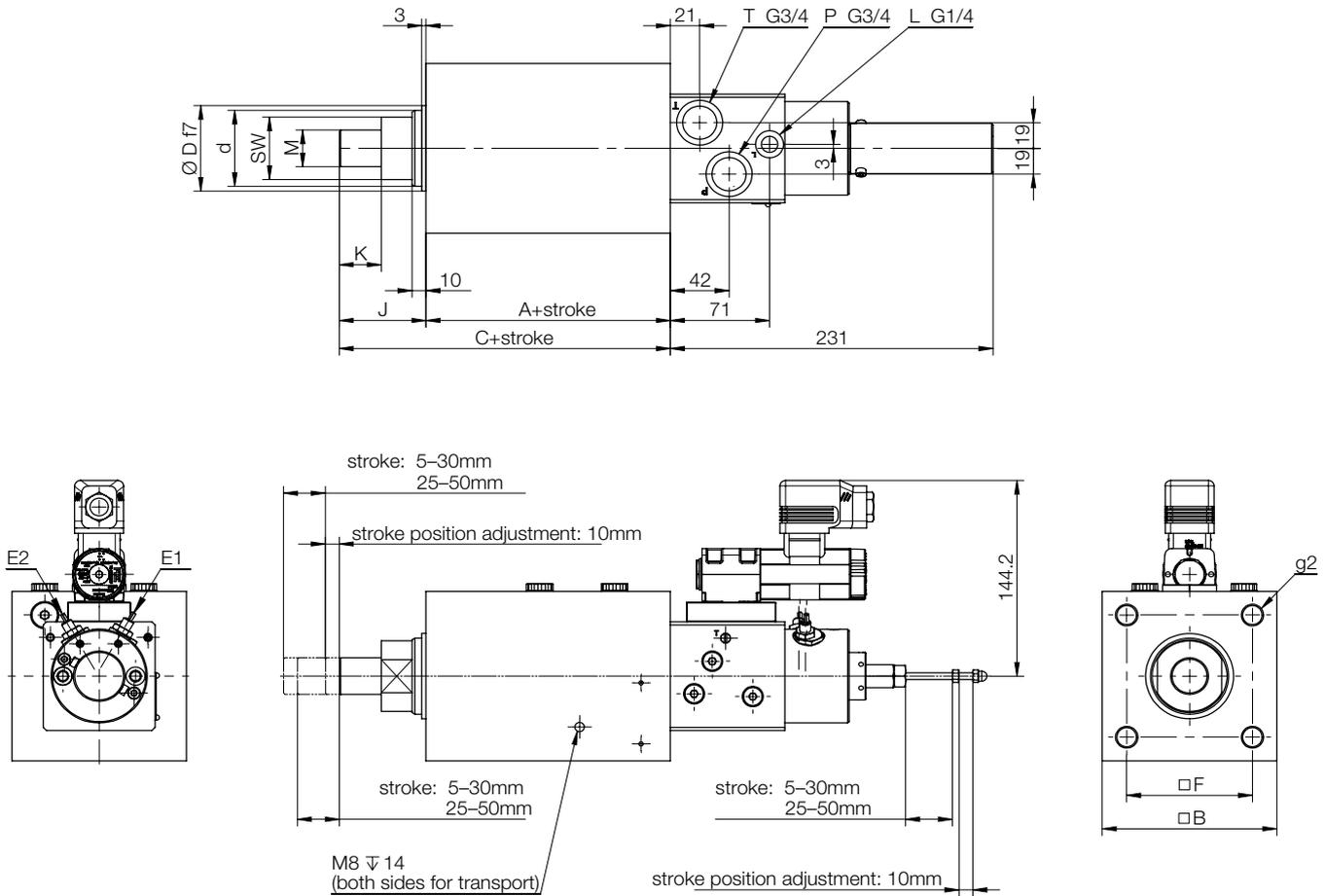
Specific performance characteristics

| | |
|--------------------|--|
| 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





Dimension table standard cylinders

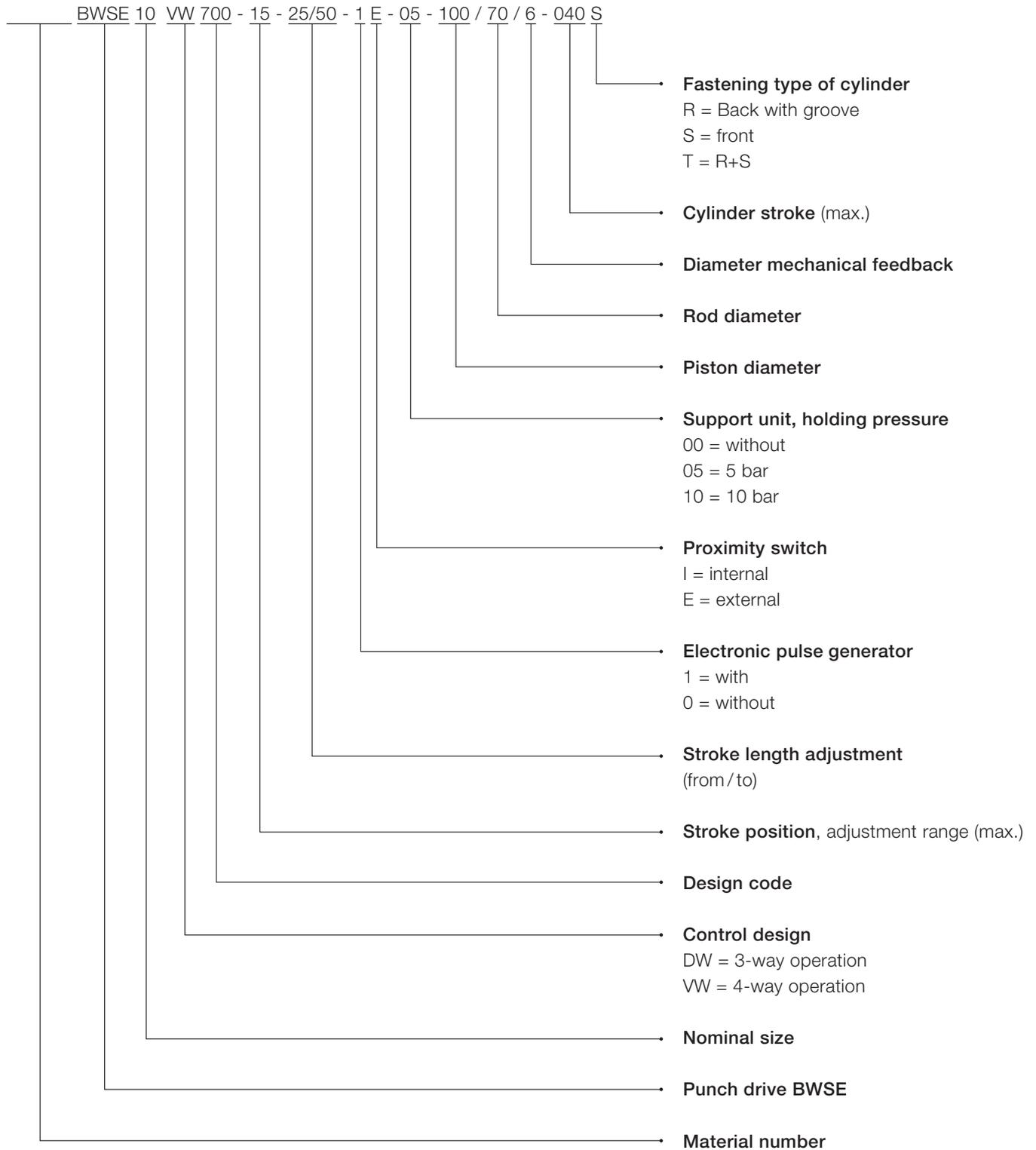
| F_{max} [kN] | $\varnothing D$ [mm] | $\varnothing d$ [mm] | A [mm] | B [mm] | C [mm] | F [mm] | J [mm] | K [mm] | M [mm] | SW [mm] | g2 [mm] |
|-------------------|-------------------------|-------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|
| 20 | 40 | 28 | 100 | 75 | 144 | 55 | 44 | 30 | M20x1,5 | 22 | M10 |
| 35 | 50 | 35 | 108 | 90 | 143 | 65 | 55 | 35 | M27x2 | 27 | M12 |
| 55 | 63 | 45 | 130 | 105 | 192 | 70 | 62 | 42 | M30x2 | 36 | M16 |
| 90 | 80 | 56 | 145 | 125 | 220 | 90 | 75 | 50 | M42x2 | 46 | M16 |
| 140 | 100 | 70 | 190 | 150 | 280 | 110 | 90 | 60 | M48x2 | 60 | M20 |

other cylinder dimensions on request

all dimensions in mm

F_{max} depends on the configured operating pressure

Type Code



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