

# SCHMIDT® ElectricPress

## A new approach to assembly technology

The use of electric drives instead of pneumatic or hydropneumatic driven cylinders is a modern advancement in assembly technology. **SCHMIDT Technology** combined its proven rack & pinion and ServoPress experience to create a new electric drive technology, providing high efficiency, full programmability and precision in a flexible pressing system.

The success of your products depends to the highest degree on process-reliable and, above all, economical assembly:

- process-safe due to reliable quality statements
- economical due to a significant reduction in operating costs thanks to electric motor drive technology.

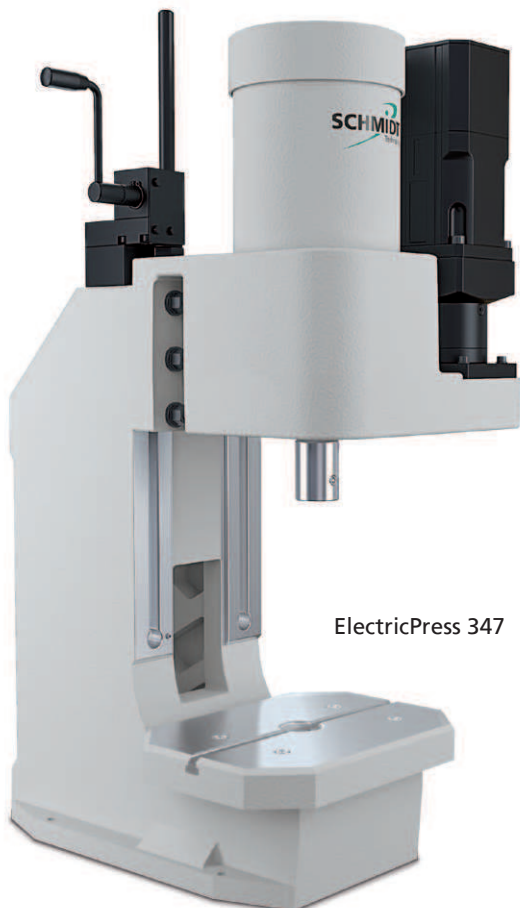
The synergy of both criteria is fulfilled by the press system **SCHMIDT® ElectricPress** with up to 20 kN maximum force and the controls **SCHMIDT® PressControl 75** for **SCHMIDT® ElectricPress 43** and **45** or **SCHMIDT® PressControl 700x** for the force-displacement monitored systems. These well-known and proven components for robust use in automation technology guarantee exactly this success.

The key advantage of the **SCHMIDT® ElectricPress**:

- Simple parameterisation minimises commissioning time
- Quick changeover procedures due to retrievable operating profiles
- Increased flexibility
- Cost reduction of tools and their wear due to free, precise positioning.
- The low noise level provides a stress-free working environment.
- The design-related non-existent stick-slip effect optimises the assembly process compared to pneumatic drives, especially at low speeds.

The expected high quality demands are met not least on the test bench. To determine the typical service life of  $2 \times 10^7$  press cycles, the test was based on minimum requirements. The mechanical, electrical and motor components as well as the thermal behaviour of the entire system passed this stress test with flying colours.

- Real-time process monitoring
- High energy efficiency
- Simple integration
- Reproducible travel profiles
- Purely electric drive
- Height adjustable



# SCHMIDT® ElectricPress 43/45 with PressControl 75



SCHMIDT® ElectricPress manual workstation with SafetyModule on PU 20

SCHMIDT® PressControl 75 for quick set-up or rapid change-over and easy programming of press parameters; stores up to 24 datasets for use in manual workcells with **SCHMIDT Technology's** proven and certified safety technology. This combination can be used both in manual workstations as well as in automation solution.



SCHMIDT® ElectricPress 43 automation

## Characteristics:

- Reproducible values for position, velocity, acceleration and deceleration
- Combination of up to 14 individual ram motion profiles into one complete profile by using a standard PLC
- Press to exact position (closed loop control stroke)
- Press to force (determined by motor current) to
  - press to final force
  - press to position but interrupt if force is exceeded
  - touch force to determine position of workpiece



# SCHMIDT® ElectricPress 343/345 with PressControl 700/7000

Paired with a **SCHMIDT®** PressControl 700 or PressControl 7000 the ElectricPress becomes a force/stroke monitored system. Its closed-loop force and position control ensures highest accuracy and facilitates the programming of complex ram motion profiles for a wide variety of pressing applications.

In addition to the position controller, **SCHMIDT®** ElectricPress also works with a real force controller (force as a controlled variable).

- Rapid approach of target force or position
- No over-shoot of programmed force or position
- Positioning accuracy in a range of 1/100 mm under constant loads
- Perfectly adapts to each application
- Pre-programmed with optimal acceleration/deceleration values
- Graphic display of force/time and stroke/time facilitates cycle time optimization

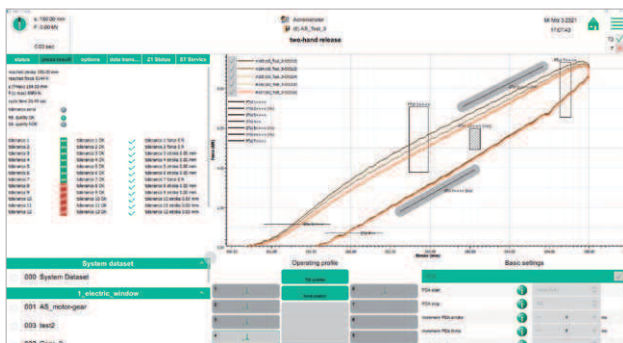
## Single workstations

In conjunction with type-examined safety techniques two-hand release, light curtain and **SCHMIDT®** SmartGate



## Automation

**SCHMIDT®** ElectricPress 343, 345 and 347 with **SCHMIDT®** PressControl 7000 control for automation solution



Process visualization



**SCHMIDT®** ElectricPress 345 automation

# SCHMIDT® ElectricPress

## Technical Data 43/343/45/345

| Press Type                                |   |        | 43                     | 343                    | 45                      | 345                     |
|---|---|--------|------------------------|------------------------|-------------------------|-------------------------|
| Force F max. <sup>1)</sup>                |   | kN     | 4                      | 4                      | 10                      | 10                      |
| Force F at 100 % duty cycle <sup>2)</sup> |   | kN     | 2,5                    | 2,5                    | 6                       | 6                       |
| Ram stroke                                | A | mm     | 100                    | 100                    | 150                     | 150                     |
| Ram speed max.                            |   | mm/s   | 200                    | 200                    | 200                     | 200                     |
| Drive resolution                          |   | µm     | < 1                    | < 1                    | < 1                     | < 1                     |
| Resolution PDA                            |   |        |                        |                        |                         |                         |
| - Stroke                                  |   | µm/inc |                        | 1,69                   |                         | 2,4                     |
| - Force                                   |   | N/inc  |                        | 1,25                   |                         | 3,0                     |
| Throat depth                              | C | mm     | 129                    | 129                    | 129                     | 129                     |
| Decibel level                             |   | dBA    | 60                     | 60                     | 60                      | 60                      |
| Power supply                              |   |        |                        |                        |                         |                         |
| - motor power                             |   |        | 200 – 240 V AC / < 6 A | 200 – 240 V AC / < 6 A | 200 – 240 V AC / < 10 A | 200 – 240 V AC / < 10 A |
| - logic unit                              |   |        | 24 V DC / 0,5 A        | 24 V DC / 0,5 A        | 24 V DC / 0,5 A         | 24 V DC / 0,5 A         |
| Working height frame 7-420 <sup>3)</sup>  | F | mm     | 62 – 420               | 62 – 420               | 50 – 360                | 50 – 360                |
| Working height frame 7-600 <sup>3)</sup>  |   | mm     | 100 – 610              | 100 – 610              |                         |                         |
| S-H x S-B x S-T                           |   | mm     | 402 x 207 x 385        | 402 x 240 x 385        | 530 x 245 x 410         | 530 x 275 x 410         |
| Weight                                    |   | kg     | 35                     | 35                     | 59                      | 59                      |
| PRC Gateway, number of I/O's              |   |        |                        | 16 inputs / 16 outputs |                         | 16 inputs / 16 outputs  |

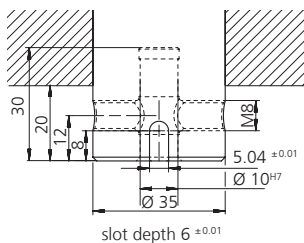
| Frame Overview | Press Type       | Frame Height M (mm) | Table Size B x T (mm) | Table Bore D Ø (mm) | Table Height K (mm) | Mounting surface (mm) |
|----------------|------------------|---------------------|-----------------------|---------------------|---------------------|-----------------------|
| No. 7-420      | 43, 343, 45, 345 | 740                 | 180 x 150             | 20 <sup>H7</sup>    | 90                  | 220 x 362             |
| No. 7-600      | 43, 343          | 960                 | 180 x 280             | 20 <sup>H7</sup>    | 110                 | 220 x 465             |

<sup>1)</sup> Temporary peak load

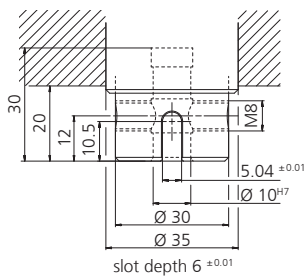
<sup>2)</sup> Nominal power in continuous operation

<sup>3)</sup> Typical values; can vary ± 3 mm due to casting and production tolerances

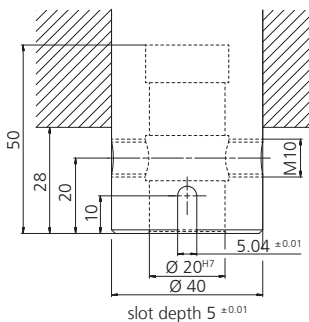
Ram press type 43



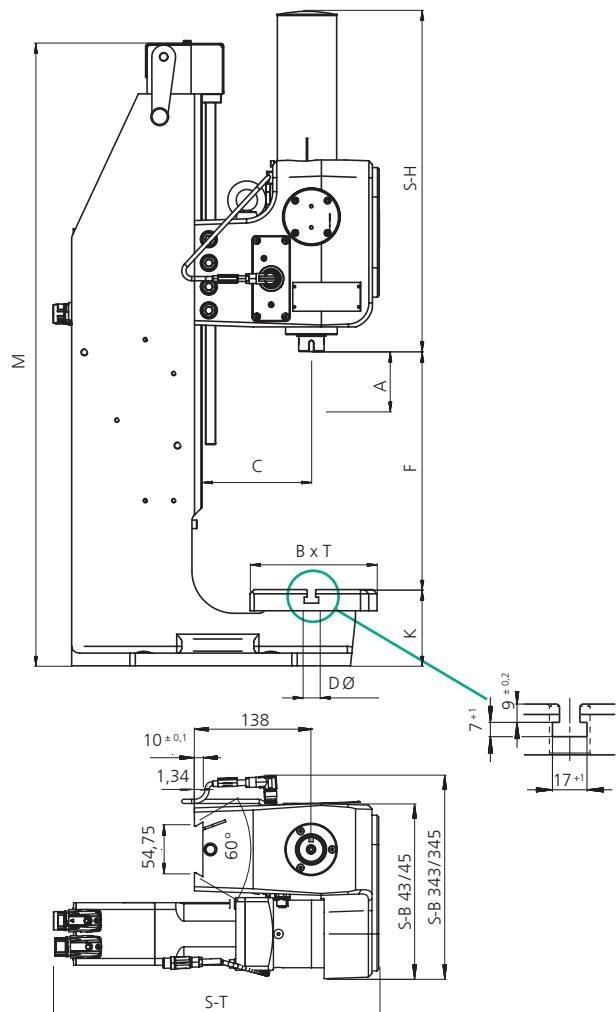
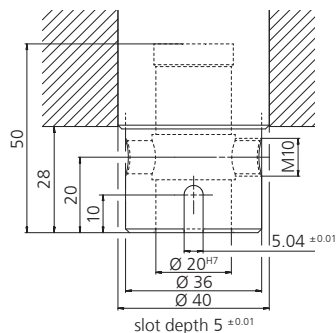
Ram press type 343



Ram press type 45



Ram press type 345



# SCHMIDT® ElectricPress

## Technical Data 347

| Press type                                | 347 |                     |                        |
|---|-----|---------------------|------------------------|
| Force F max. <sup>1)</sup>                |     | kN                  | 20                     |
| Force F at 100 % duty cycle <sup>2)</sup> |     | kN                  | 13                     |
| Ram stroke                                | A   | mm                  | 150                    |
| Ram stroke max.                           |     | mm/s                | 100                    |
| Drive resolution                          | E   | µm                  | < 1                    |
| Resolution PDA                            |     |                     |                        |
| – stroke                                  |     | µm/inc              | 2,30                   |
| – force                                   |     | N/inc <sup>3)</sup> | 6,25                   |
| Throat depth                              | C   | mm                  | 160                    |
| Decibel level                             |     | dB A                | 66                     |
| Power supply                              |     |                     | 200 – 240 V AC < 10 A  |
| – motor power                             |     |                     | 1.3 kW                 |
| – logic unit                              |     |                     | 24 V DC / 0.5 A        |
| Working height                            |     |                     |                        |
| frame 35 <sup>3)</sup>                    | F   | mm                  | 18 – 225               |
| frame 35-500 <sup>3)</sup>                |     |                     | 80 - 495               |
| frame 35-600 <sup>3)</sup>                |     |                     | 196 - 612              |
| S-H x S-B x S-T                           |     | mm                  | 464 x 298 x 261        |
| Weight                                    |     | kg                  | 66                     |
| PRC Gateway, number of I/O's              |     |                     | 16 inputs / 16 outputs |

| Frame overview | Press type | Frame Height M (mm)       | Table Size W x D (mm) | Table Bore D (Ø mm) | Table Height K (mm) | Mounting Surface W x L (mm) | Frame Weight (kg) |
|----------------|------------|---------------------------|-----------------------|---------------------|---------------------|-----------------------------|-------------------|
| No. 35         | 347        | 688/(846) <sup>6)</sup>   | 300 x 220             | 40H7                | 141                 | 300 x 475                   | 99                |
| No. 35-500     | 347        | 983/(1371) <sup>6)</sup>  | 300 x 220             | 40H7                | 166                 | 300 x 560                   | 213               |
| No. 35-600     | 347        | 1100/(1488) <sup>6)</sup> | 300 x 220             | 40H7                | 166                 | 300 x 590                   | 242               |

- <sup>1)</sup> Temporary peak load
- <sup>2)</sup> Nominal power in continuous operation
- <sup>3)</sup> Typical values; can vary ± 3 mm due to casting and production tolerances
- <sup>6)</sup> incl. threaded rod Höhenverstellung

