

100[®] Series automatic Stud Driver

100[®] Series automatic stud drivers are designed for the fast and accurate driving of large studs M10 – M30 and 3/8" – 1 1/8" to a predetermined projection height. Their time proven design assures the ultimate in reliability and efficiency. **100[®]** Series stud drivers automatically grip and release studs without screwing on or off, and therefore are 50 % faster than reversing type stud drivers.

Advantages:

- short cycles, quick releasing, non-reversing, self-opening
- heavy duty design for large stud sizes
- easy maintenance



Automatic Stud Projection Height

The **100[®]** Series stud drivers are specially designed for driving studs to a predetermined projection height. The stud does not have to be driven to the bottom of the hole or threads. When the adjustable gage contacts the work surface the jaws release the stud. Once contact occurs the stud cannot be driven any further even if rotation continues. The projection height is easily adjusted by moving the trip gage up or down the longitudinal axis of the stud driver.

The Auto-Load Gage

The Auto-Load Gage should be used when it is desirable to insert the stud into the stud driver rather than into the workpiece. The operator simply inserts a stud. A series of hardened steel pins exert pressure against the stud preventing it from falling out of the tool, even if only partially loaded into the stud driver. The Auto-Load Gage is adjustable and controls projection height in the same manner as our other projection height gages.



Power Source

With the **exception of impact and impulse drive tools**, all other power tools are acceptable as long as you stay within the recommended RPM range and torque limits listed on page 2. Using a spring loaded spindle adaptor is highly recommended on all multiple spindle and automatic machines.

Cartridge Design for easy Maintenance

The **100[®]** Series Stud Drivers incorporates a unique cartridge design. This eliminates time consuming and costly repairs, as well as the need to keep expensive quantities of replacement tools on hand. All parts are made of special alloy steel, heat treated to optimum levels and are independently replaceable.

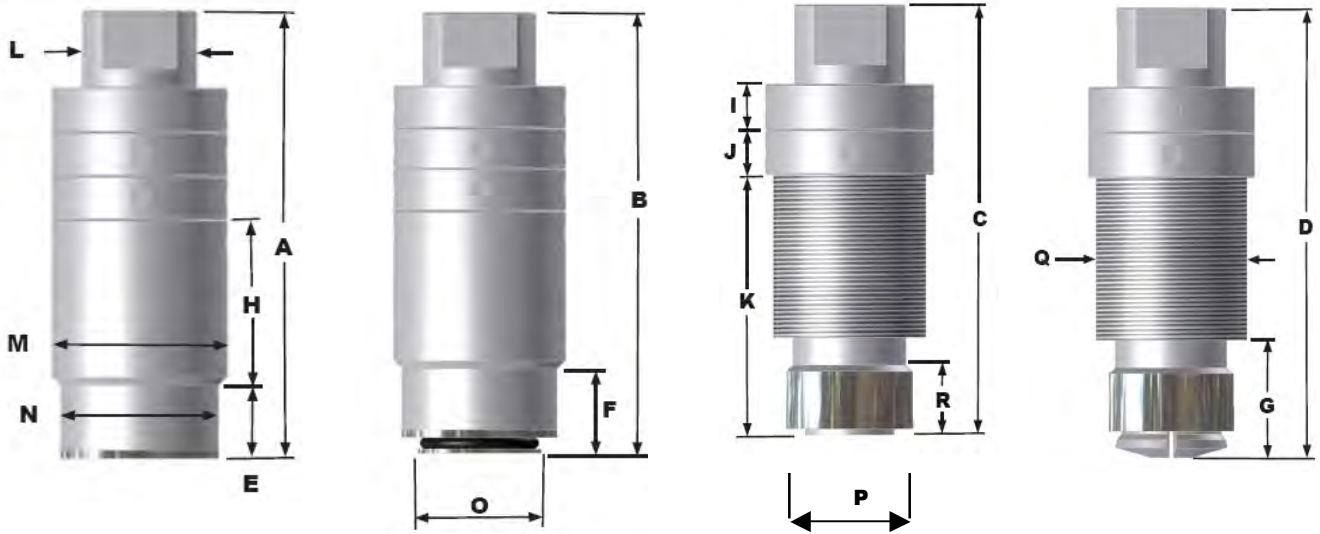


Drawing 1:
Stud has been inserted into the driver and is being held in place by the Auto-Load Gage. If the stud were to be pre-started into the workpiece, the use of an Auto-Load would not be necessary. The **100**[®] Series stud driver need to rotate before the stud makes contact with the workpiece.

Drawing 2:
With spindle rotating and axial pressure being applied to the driver, the jaws and body of the **100**[®] Series stud driver will close and move into the drive position allowing torque to be transmitted to the stud.

Drawing 3:
Once the gage end contacts the workpiece the gage end will start to collapse and the body will move out of the drive position. Once this has occurred torque is no longer transmitted to the stud and the drive action will stop. At the end of the drive cycle the spindle is retracted, the jaws open and release the stud.

| Tool Size | # 102 | # 103 | # 104 |
|----------------------|--------|--------|--------|
| Recommended RPM | 400 | 300 | 200 |
| Maximum Torque Limit | 54 Nm | 129 Nm | 305 Nm |
| Weight | 1,4 kg | 3,9 kg | 9,8 kg |



with Gage # 10

with Gage # 10-AL

**less Gage
Jaws closed**

**less Gage
Jaws opened**

Tools are shown in shortest position, with jaws fully loaded and trip gage set to provide minimum stud projection from workpiece.

To allow for free movement of internal parts and collapsible gage end when jaws are in unloaded position, add the following to total length:

102: 8 mm – 13 mm

103: 12 mm – 17 mm

104: 12 mm – 21 mm

Amount varies with position of stud driver, upright or inverted.

Any increase from minimum projection height setting causes a corresponding, equal increase in dimensions A, B and total Stud Engagement, Page 4, dim. B.

Tools shown less trip Gage. In certain cases the **100**[®] Series stud driver may be run less gage.

Example: side interference does not provide sufficient clearance for use of trip gage, and therefore stud projection is controlled by some other means (such as spindle stops).

To allow for free movement of internal parts when jaws are in unloaded position, add the following to total length:

102: 1,6 mm

103: 4,0 mm

104: 7,0 mm

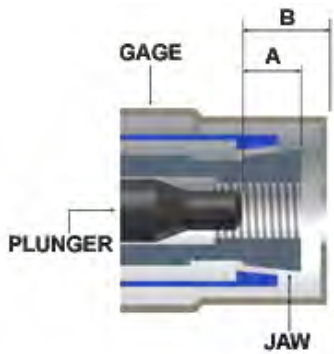
Amount varies with position of stud driver, upright or inverted.

Dimensions **100**[®] Series

| | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R |
|------------|-----|-----|-----|-----|----|----|----|-----|----|----|-----|----|----|----|----|----|----|----|
| 102 | 129 | 134 | 119 | 134 | 21 | 26 | 33 | 48 | 13 | 13 | 52 | 33 | 51 | 46 | 32 | 38 | 46 | 21 |
| 103 | 194 | 208 | 183 | 203 | 34 | 48 | 50 | 84 | 17 | 13 | 120 | 46 | 68 | 64 | 51 | 52 | 64 | 33 |
| 104 | 232 | - | 214 | 240 | 49 | - | 65 | 105 | 22 | 13 | 148 | 67 | 98 | 86 | - | 74 | 89 | 33 |

all dimensions in millimeters, tolerance +/- 0,8 mm

100® Series Stud Engagement Chart



A: Thread Grip

This figure equals the distance from the end of the jaws to the tip of the plunger.

B: Total Stud Engagement in fully loaded Position

This figure equals the distance from the face of the tool to the tip of the plunger.

| | | Gage | Stud Size | | | | | |
|------------|---|----------------------|-----------|-----|-----|-----------------|-----|-----------------|
| | | | M10 | M12 | M14 | M16, M18 M20 | M22 | M24, M27 M30 |
| 102 | A | | 14 | 14 | - | - | - | - |
| | B | with #10 | 24 | 24 | - | - | - | - |
| | | with #10AL Auto-Load | 29 | 29 | - | - | - | - |
| 103 | A | | - | 19 | 21 | 22 | - | - |
| | B | with #10 | - | 31 | 33 | 34 | - | - |
| | | with #10AL Auto-Load | - | 39 | 41 | 42 | | - |
| 104 | A | | - | - | - | 24 | 28 | 32 |
| | B | with #10 | - | - | - | 42 | 46 | 50 |

The #104 Stud Driver is only available with #10 Gage, #10AL Auto-Load Gage is only available on request.

Projection Height Range

| Tool Sizes | | 102 [®] | 103 [®] | | | 104 [®] | | | Gage |
|-------------------|-----|------------------|------------------|-----|-----------------|------------------|-----|-----------------|---------------------|
| Stud Sizes | | M10, M12 | M12 | M14 | M16, M18 M20 | M16, M18 M20 | M22 | M24, M27 M30 | |
| Projection Height | MIN | 19 | 24 | 26 | 29 | 30 | 34 | 38 | #10 |
| | MAX | 53 | 91 | 93 | 95 | 113 | 117 | 121 | |
| | MIN | 25 | 32 | 34 | 36 | Special to order | | | #10 AL Auto-Load |
| | MAX | 59 | 98 | 101 | 103 | | | | |
| | MIN | 52 | 89 | 91 | 94 | 111 | 115 | 119 | #11 |
| | MAX | 86 | 156 | 158 | 160 | 192 | 198 | 202 | |
| | MIN | 84 | 154 | 156 | 159 | - | - | - | #12 |
| | MAX | 118 | 221 | 223 | 225 | - | - | - | |
| | MIN | 117 | - | - | - | - | - | - | #13 |
| | MAX | 151 | - | - | - | - | - | - | |
| | MIN | 149 | - | - | - | - | - | - | #14 |
| | MAX | 183 | - | - | - | - | - | - | |

Note: all dimensions in millimeters

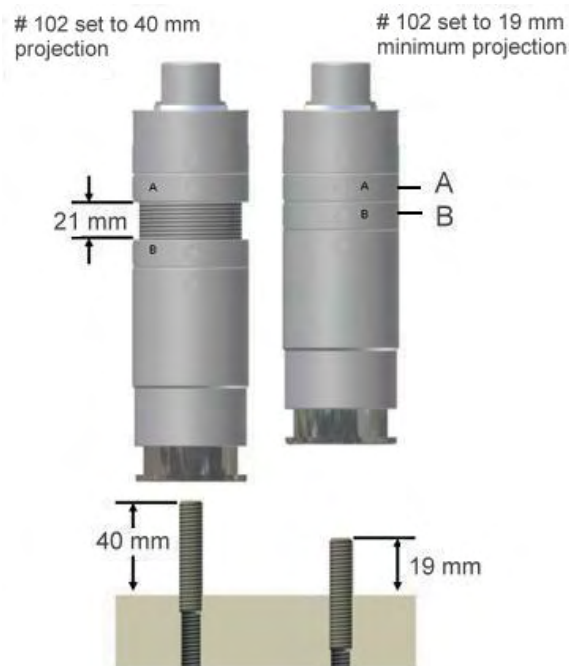
For longer or shorter studs or stud projection, consult us for special options or tool modifications.

Projection Height Adjustment

100[®] Series equipped with Gage #10

Increasing the distance between lock rings A and B will produce a corresponding increase in the set projection height. You receive the dimension for the distance between the lock rings A and B when you deduct the minimum projection height from your required projection height.

Example:



100[®] Series Stud Driver – Ordering Information

| | Stud Size (Please choose) | | | | Gage (Please choose) | Drive Size (Please choose) |
|------------|------------------------------|-----------|------------|------------|---|---|
| | inch | metric | | | | |
| 102 | 5/16"-18 | 7/16"-20 | M8 x 1.25 | | open Gage # 1 Gage # 10 Gage # 11 Gage # 12 Gage # 13 Gage #1 4 Gage # 10-AL (Auto-Load) | 3/8" Square Drive 1/2" Square Drive M16 x 1.00 Thread 3/8"-24 Thread 1/2"-20 Thread 5/8"-16 Thread 1/2" Round 5/8" Round |
| | 5/16"-24 | 1/2"-13 | M10 x 1.50 | | | |
| | 3/8"-16 | 1/2"-20 | M10 x 1.25 | | | |
| | 3/8"-24 | | M10 x 1.75 | | | |
| | 7/16"-14 | | M12 x 1.75 | | | |
| | | | M12 x 1.25 | | | |
| 103 | 7/16"-14 | 9/16"-18 | M12 x 1.75 | M16 x 1.50 | open Gage # 1 Gage # 10 Gage # 11 Gage # 12 Gage # 10-AL (Auto-Load) | 1/2" Square Drive 5/8" Square Drive 3/4" Square Drive M16 x 1.00 Thread 5/8"-16 Thread 7/8"-14 Thread |
| | 7/16"-20 | 5/8"-11 | M12 x 1.25 | M18 x 2.50 | | |
| | 1/2"-13 | 5/8"-18 | M14 x 2.00 | M18 x 1.50 | | |
| | 1/2"-20 | 3/4"-10 | M14 x 1.50 | M20 x 2.50 | | |
| | 9/16"-12 | 3/4"-16 | M16 x 2.00 | M20 x 1.50 | | |
| | | | | | | |
| 104 | 5/8"-11 | 1"-8 | M16 x 2.00 | M22 x 1.50 | open Gage # 1 Gage # 10 Gage # 11 Gage # 10-AL (on request) | 3/4" Square Drive 1" Square Drive 1 1/4"-12 Thread (on request) |
| | 5/8"-18 | 1"-12 | M16 x 1.50 | M24 x 3.00 | | |
| | 3/4"-10 | 1"-14 | M18 x 2.50 | M24 x 2.00 | | |
| | 3/4"-16 | 1 1/8"-7 | M18 x 1.50 | M27 x 3.00 | | |
| | 7/8"-9 | 1 1/8"-12 | M20 x 2.50 | M27 x 2.00 | | |
| | 7/8"-14 | | M20 x 1.50 | M30 x 3.50 | | |
| | | | M22 x 2.50 | M30 x 2.00 | | |

Ordering:

1. Choose a tool size depending from Torque, Stud Size and Clearance.
2. Choose a Stud Size.
3. Choose a Gage.
4. Choose a Drive Size (see above Chart).

We have specialized in stud driving and offer many years of experience in this field. We encourage you to contact us before proceeding with any new applications involving our tools. If you are not sure to select the correct tool for your application, please fill our contact form. We will be happy to quote to you the tool for your job.

Please include sample studs with your inquiry or purchase order if possible.

Important: Do not use 100[®] Series Stud drivers with Impact.

Automatic / Multiple Spindles: For enhanced performance always use a **TTSL[®] Spindle Adaptor**.

The **100[®]** Series is also available with Torque Clutch and for driving Pipes or hollow Studs as Oil Filter Studs.

Patents: U.S. Patents: 4,470,329 4,476,749, 4,513,643 4,819,519 5,119,700 worldwide