

HLS

HYDRAULIC  
LEVERAGE CLAMP

FEATURES

The design of the CLF5H series uses an integrated structure that features a linkage mechanism. The clamping arm can be pulled to a position lower than the clamping surface when the clamp is released and helps minimize any interference during the loading/unloading of the workpiece. This hydraulic leverage cylinder uses minimal motion trajectory and is capable of achieving the clamping effect to the placements that are generally difficult to be clamped by the traditional swing/leverage cylinders. This product is able to save work space and minimize the interference to the surrounding machinery and equipment. With its special dust-proof design, this product has improved its sealing performance that protects against the penetration of cutting or coolant and is made to endure harsh industrial environments.

Max. operating pressure: 70 kgf/cm<sup>2</sup>  
Min. operating pressure: 10 kgf/cm<sup>2</sup>

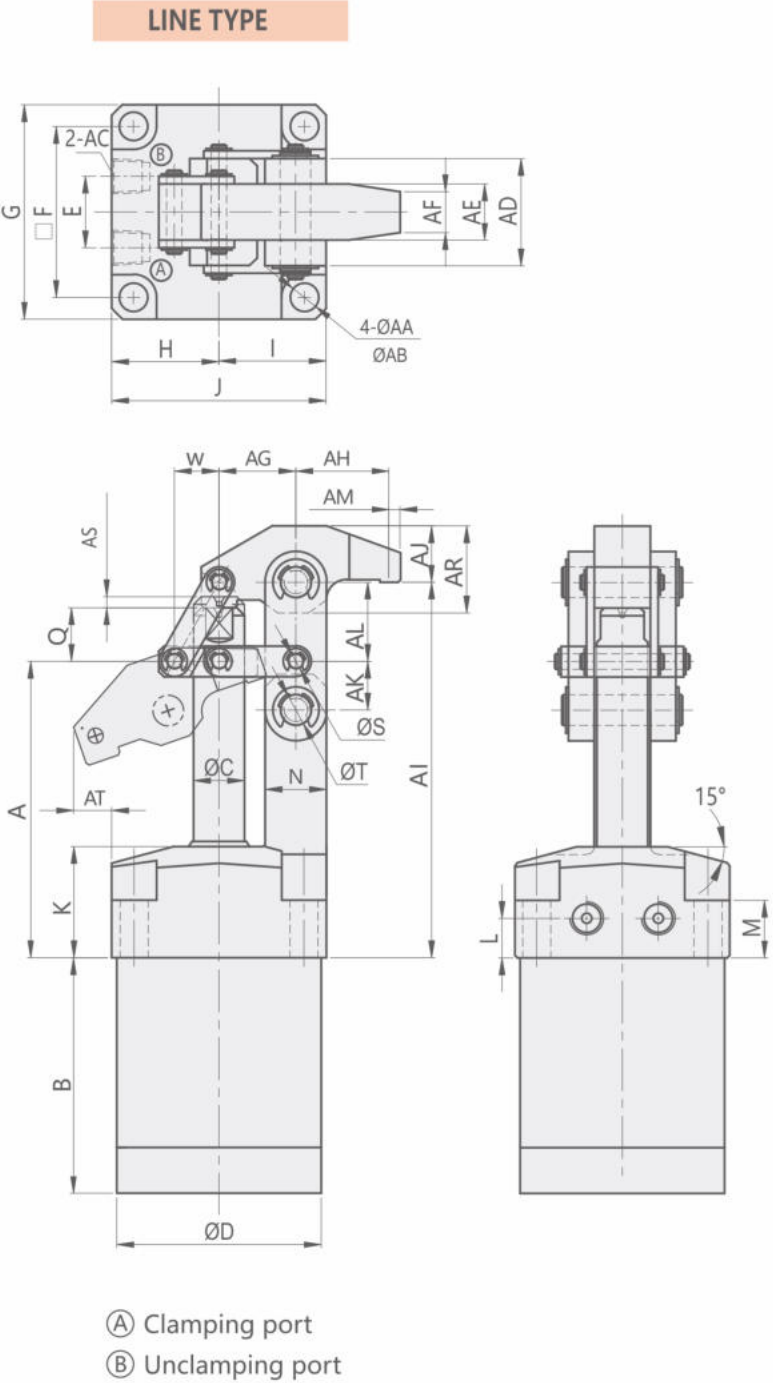
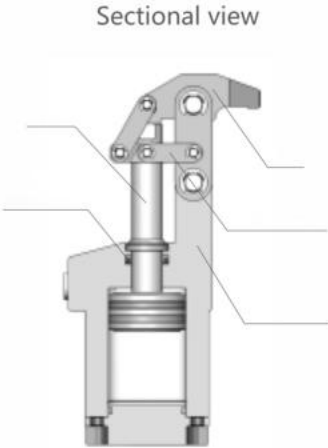
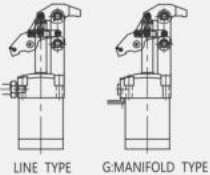
NOTE

The action and the speed of clamping / unclamping needs to be slowed down appropriately.

ORDERING INDICATION

HLS - 32G

| HLS-32G | Series                             | HLS                                  |
|---------|------------------------------------|--------------------------------------|
| 32      | Hydraulic cylinder inside diameter | Φ 25,Φ 32,Φ 40,Φ 50                  |
| G       | Port type                          | Blank: Line type<br>G: Manifold type |



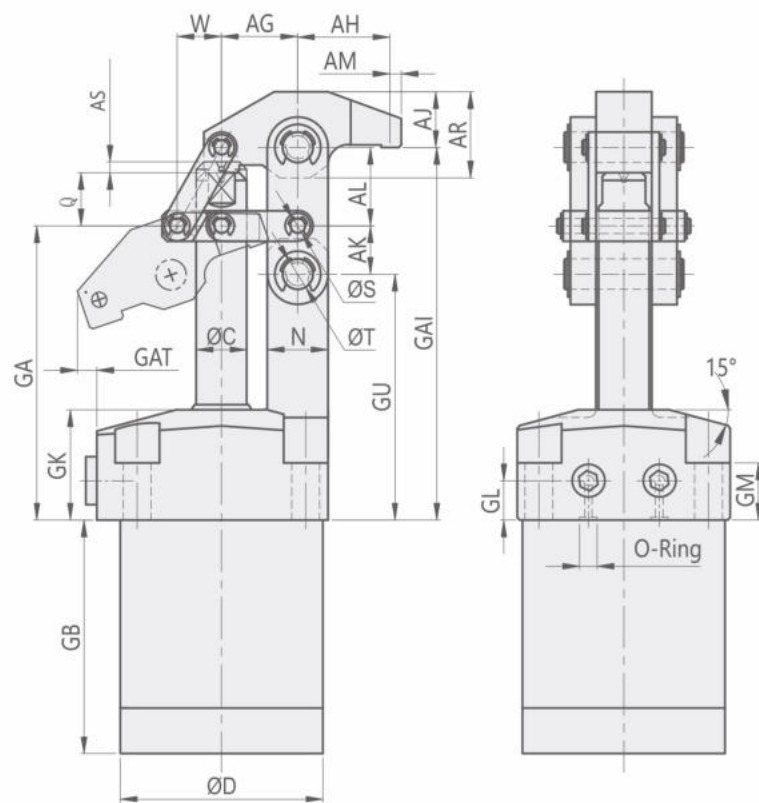
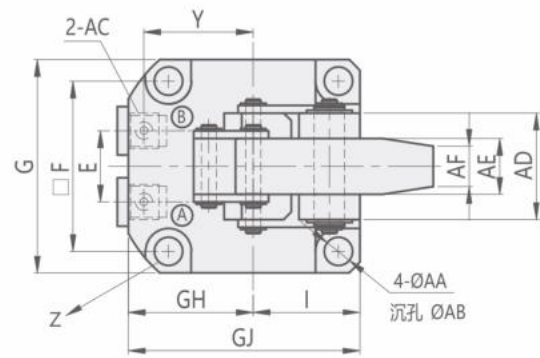
SPECIFICATIONS

| MODEL  | CLAMPING FORCE<br>AT 70 kgf/cm <sup>2</sup> (kgf) | CLAMPING<br>STROKE (mm) | TOTAL<br>STROKE (mm) | CYLINDER CAPACITY<br>CLAMP (cm <sup>3</sup> ) | CYLINDER CAPACITY<br>UNCLAMP (cm <sup>3</sup> ) | EFF.PISTON AREA<br>CLAMP (cm <sup>2</sup> ) | EFF.PISTON AREA<br>UNCLAMP (cm <sup>2</sup> ) | RANGE OF<br>TEMPERATURE (°C) | USABLE<br>FLUID                                                                    |
|--------|---------------------------------------------------|-------------------------|----------------------|-----------------------------------------------|-------------------------------------------------|---------------------------------------------|-----------------------------------------------|------------------------------|------------------------------------------------------------------------------------|
| HLS-25 | 290                                               | 31.5                    | 34                   | 16.69                                         | 11.46                                           | 4.91                                        | 3.37                                          | -10~+70°C                    | Recommended:<br>ISO-VG-32<br>hydraulic oil<br>equivalent to ISO<br>viscosity grade |
| HLS-32 | 441                                               | 35.5                    | 38                   | 30.55                                         | 25.08                                           | 8.04                                        | 6.60                                          | -10~+70°C                    |                                                                                    |
| HLS-40 | 709                                               | 41                      | 44                   | 55.26                                         | 46.46                                           | 12.56                                       | 10.56                                         | -10~+70°C                    |                                                                                    |
| HLS-50 | 1136                                              | 47                      | 50                   | 98.15                                         | 82.45                                           | 19.63                                       | 16.49                                         | -10~+70°C                    |                                                                                    |

Unit:mm

| MODEL<br>ITEM | HLS-25 | HLS-32 | HLS-40 | HLS-50 |
|---------------|--------|--------|--------|--------|
| A             | 70     | 75     | 89.5   | 101.5  |
| B             | 59.5   | 70.5   | 79.5   | 86.5   |
| C             | 14     | 14     | 16     | 20     |
| D             | 47     | 55     | 65     | 80     |
| E             | 21     | 21     | 25     | 28     |
| F             | 40     | 47     | 55     | 67     |
| G             | 50     | 59     | 69     | 84     |
| H             | 25     | 29.5   | 34.5   | 42     |
| I             | 25     | 29.5   | 34.5   | 42     |
| J             | 50     | 59     | 69     | 84     |
| K             | 30.5   | 30.5   | 37.5   | 43.5   |
| L             | 11.5   | 11.5   | 13.5   | 15.5   |
| M             | 16     | 15.5   | 20.5   | 22.5   |
| N             | 12     | 16     | 20     | 24     |
| Q             | 12     | 14     | 20     | 21     |
| S             | 5      | 5      | 6      | 6      |
| T             | 6      | 8      | 10     | 12     |
| U             | 56.5   | 60     | 72     | 83     |
| W             | 13     | 13     | 16     | 17.5   |
| AA            | 5.5    | 6.6    | 9      | 11     |
| AB            | 9.5    | 11     | 14     | 18     |
| AC            | PT1/8  | PT1/8  | PT1/4  | PT1/4  |
| AD            | 22     | 28     | 36     | 42     |
| AE            | 12     | 16     | 19     | 22     |
| AF            | 8      | 12     | 14     | 16     |
| AG            | 19     | 21.5   | 24.5   | 30     |
| AH            | 23     | 28     | 31     | 37     |
| AI            | 88     | 95     | 117.5  | 132.5  |
| AJ            | 13     | 15     | 18     | 22     |
| AK            | 13.5   | 15     | 17.5   | 19     |
| AL            | 18     | 20     | 28     | 31     |
| AM            | 4      | 4      | 4      | 4      |
| AR            | 20     | 23     | 28     | 34     |
| AT            | 12     | 11     | 18     | 15     |

## G: MANIFOLD



- (A) Clamping port
- (B) Unclamping port

Unit:mm

| MODEL<br>ITEM | HLS-25G | HLS-32G | HLS-40G | HLS-50G |
|---------------|---------|---------|---------|---------|
| GA            | 70.5    | 75.5    | 90      | 102     |
| GB            | 59      | 70      | 79      | 86      |
| C             | 14      | 14      | 16      | 20      |
| D             | 47      | 55      | 65      | 80      |
| E             | 21      | 21      | 25      | 28      |
| F             | 40      | 47      | 55      | 67      |
| G             | 50      | 59      | 69      | 84      |
| GH            | 35      | 37.5    | 45.5    | 51      |
| I             | 25      | 29.5    | 34.5    | 42      |
| GJ            | 60      | 67      | 80      | 93      |
| GK            | 31      | 31      | 38      | 44      |
| GL            | 12      | 12      | 14      | 16      |
| GM            | 18      | 17      | 21      | 23      |
| N             | 12      | 16      | 20      | 24      |
| Q             | 12      | 14      | 20      | 21      |
| S             | 4       | 5       | 6       | 6       |
| T             | 6       | 8       | 10      | 12      |
| GU            | 57      | 60.5    | 72.5    | 83      |
| W             | 13      | 13      | 16      | 17.5    |
| O-Ring        | S4      | S4      | S4      | P5      |
| Y             | 29      | 32      | 37      | 44      |
| Z             | R39     | R43     | R51     | R57     |
| AA            | 5.5     | 6.6     | 9       | 11      |
| AB            | 9.5     | 11      | 14      | 18      |
| AC            | G1/8    | G1/8    | G1/4    | G1/4    |
| AD            | 22      | 28      | 36      | 42      |
| AE            | 12      | 16      | 19      | 22      |
| AF            | 8       | 12      | 14      | 16      |
| AG            | 19      | 21.5    | 24.5    | 30      |
| AH            | 23      | 28      | 31      | 37      |
| GAI           | 88.5    | 95.5    | 118     | 133     |
| AJ            | 13      | 15      | 18      | 22      |
| AK            | 13.5    | 15      | 17.5    | 19      |
| AL            | 18      | 20      | 28      | 31      |
| AM            | 4       | 4       | 4       | 4       |
| AR            | 20      | 23      | 28      | 34      |
| GAT           | 2       | 3       | 7       | 6       |

