

# high pressure vices

general catalogue | | 19



  
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**ARNOLD**

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**fresmak**  
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## How to use this Catalogue

To select the correct vice consult page 7 of our catalogue.

For your convenience it is divided into two large chapters depending on the type of vice.

### ■ HIGH PRESSURE MANUAL VICES

The work-pieces are clamped one by one or two by two and the pressure is exerted by turning the handle manually.

### ■ AUTOMATIC HIGH PRESSURE VICES

The work-pieces are clamped one by one or two by two and the force is automatically exerted by operating a button, a pedal or on automatic.

Each chapter is provided with its own table of contents, a table with different options and an explanation of how the spindles work according to the vice model.

The last pages include general tables for choosing spindles, accessories, the table of codes used for ordering and some examples of applications.

If you would like to receive our cylinder catalogue see page 65.

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# fresmak ARNOLD

45 years of high pressure

We would like to offer you our company's complete manufacturing range.

The materials used, our highly qualified personnel and our advanced manufacturing techniques guarantee us a leading market position.

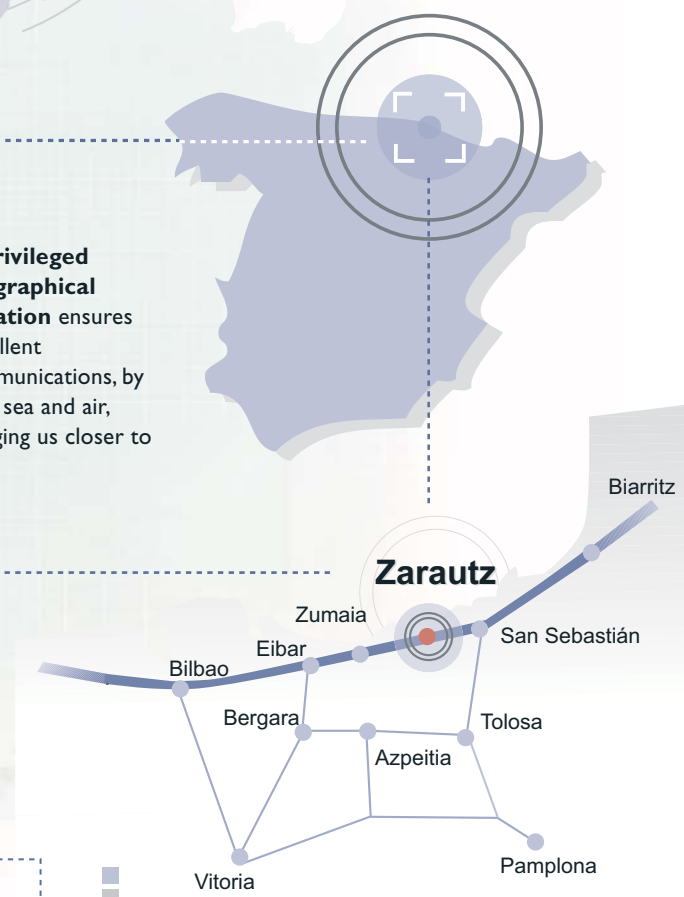
## we clamp everything

For 45 years, day after day, our main task has always been to improve; our customers are proof of this; loyal to our long-lasting products which are increasingly adapted to their needs, ensuring that customer confidence in us and our service go from strength to strength.

Thank-you, our mission is to continue to be of use to you by fulfilling your needs.



A privileged geographical situation ensures excellent communications, by land, sea and air, bringing us closer to you.



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# Advantages of High Pressure

FRESMAK, S.A. Is dedicated to the manufacture of clamping solutions; our main products are high pressure vices.

## The advantages of high pressure are considerable.

Here is **why** we manufacture high pressure clamps.

### SAFE CLAMPING

High pressure produces intense force therefore the work-piece is very well clamped.

This enables greater feed cut, depth and milling.

### ZERO WEAR

High pressure clamps do not imply any wear on the vice parts because the movement is axial.

On a traditional vice more force is obtained by rotating the spindle and as such the spindle supports the pressure made on the work-piece. This means a lot of wear on the thread (spindle). This is not the case with high pressure, It is the pushrod which makes the force, using an axial movement, and thus does not support much force and the spindle itself, none.

### INTENSIFIER

Thanks to this force intensifier, pressure can be obtained with the least effort.

### DURABILITY

High pressures vice spindles support less wear, and as such have a much longer product life.

### REPEATABILITY

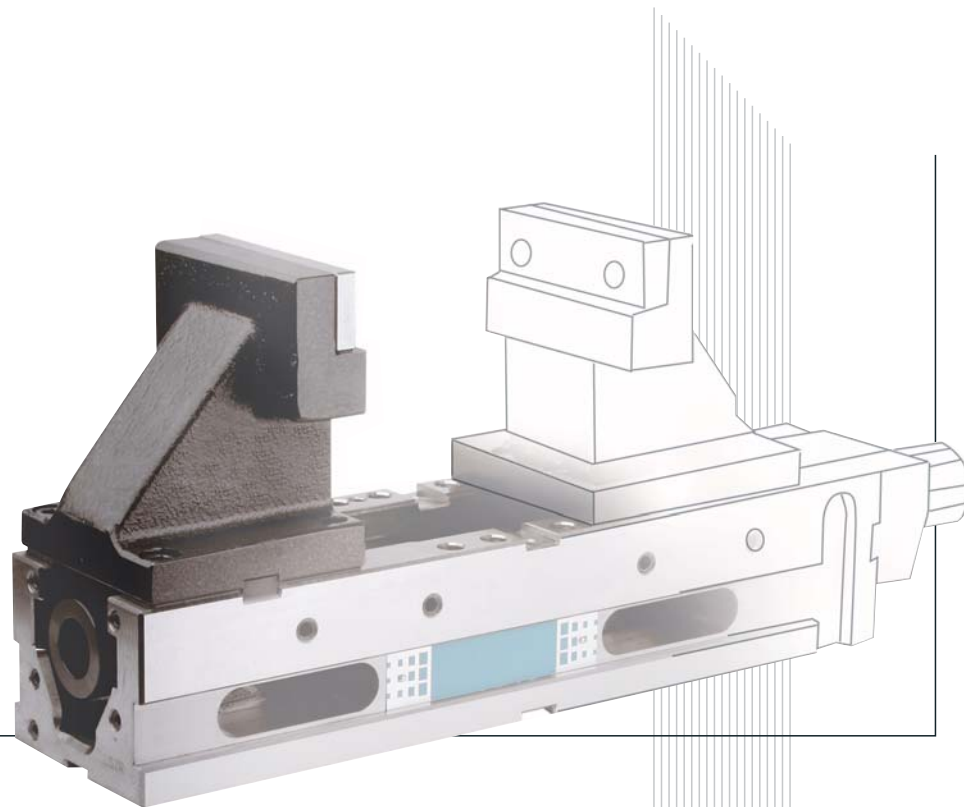
Irrespective of the operator the same clamping force is always obtained. This constant repetitive pressure enables greater clamping precision and positioning of the work-piece.

### MANUFACTURE

High pressure vice manufacture is very precise. Height, distances between points, finishes, milling, grinding, tempering, hardnesses are all carefully controlled and tested to offer maximum performance on the machines where they will be used.

**fresmak**  
**ARNOLD**

- GREATER SAFETY
- CLAMPING
- INTENSIFIER
- BETTER REPEATABILITY
- ZERO WEAR
- LONGER LASTING
- GREATER PRODUCTION
- LESS COST
- ACCESS
- TO NEW CLIENTS



# Spindles

- All ARNOLD high pressure spindles are governed by the same operating concept.

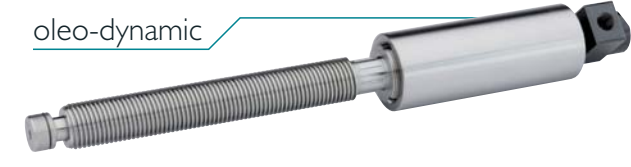
### Manually operated spindles

- Hydraulic spindle
- Mechanical spindle
- PROX Spindle
- The ARNOLD vice should always make two types of movement with one single lever. First the approach movement to the work-piece to be clamped and then the high pressure.
- To link both movements, all models have the same clutch system. This system, with some small modifications, has been tried and tested for years with excellent results.
- Continuing on from the clutch system, all the spindles have an intensifying system which is carried out with a handle.
- This intensifier system, together with the position that it occupies within the clamp, is what differentiates the spindles.
- To obtain clamping force the handle must be turned.

### Automatic spindles

- Oleo-dynamic spindles
- Pneumo-hydraulic spindles
- AUTOMAT spindle
- These spindles do not need a clutch; they carry out the approach movement using a handle (oleo-dynamic or automat) or by means of manual cylinder rotation (pneumatic-hydraulic).
- The intensifying system is carried out in a similar fashion to the rest of the ARNOLD spindles.

Dimensions table on pages 60 and 61.



# Common characteristics and Materials

The main body, the moveable jaw and the spindle shoe are manufactured in **cast nodular peralite GGG 70**, providing it with high resistance to breakage and fatigue (with the exception to the models SC, IZI and IZ2 which are in steel). In addition, due to the molecular structure it is ideal for absorbing vibrations, which are produced during machining and, as it is more stable in time, enabling ARNOLD vices to keep their shape for more than 20 years.

All Fresmak vices have two **longitudinal and transversal key slots (20H7)**, perfectly machined and perpendicular, which means that they can be rapidly fitted on machining tables without the need for a comparator clock and with the possibility of placing several perfectly aligned clampings.

The vice **jaws** are constructed in F-5220 - 100MnCrW4 - tempered at **60 HRC**, enabling them to withstand high pressure action without deformation and are resistant to the action of swarf, and protected from being dented by swarf.

Similarly, the **guides are tempered by induction or flame hardening** and ground to improve the positioning of the work-piece and the sliding of the moveable jaw. This method makes them sufficiently hard so as not to suffer any damage during even the most abrupt machining, nor will they be affected by swarf, acids or cutting fluids.

All our vices are identified with an **individual production number** and all measurements are documented at the factory, assuring precision on repeat orders.

Additionally, all the bodies incorporate laterally threaded holes to fit the adjustable stops that the work-piece requires (a standard adjustable stop can be supplied to order).

# How to choose a Vice

This table offers the user information to help choose the best type of vice to suit their needs.

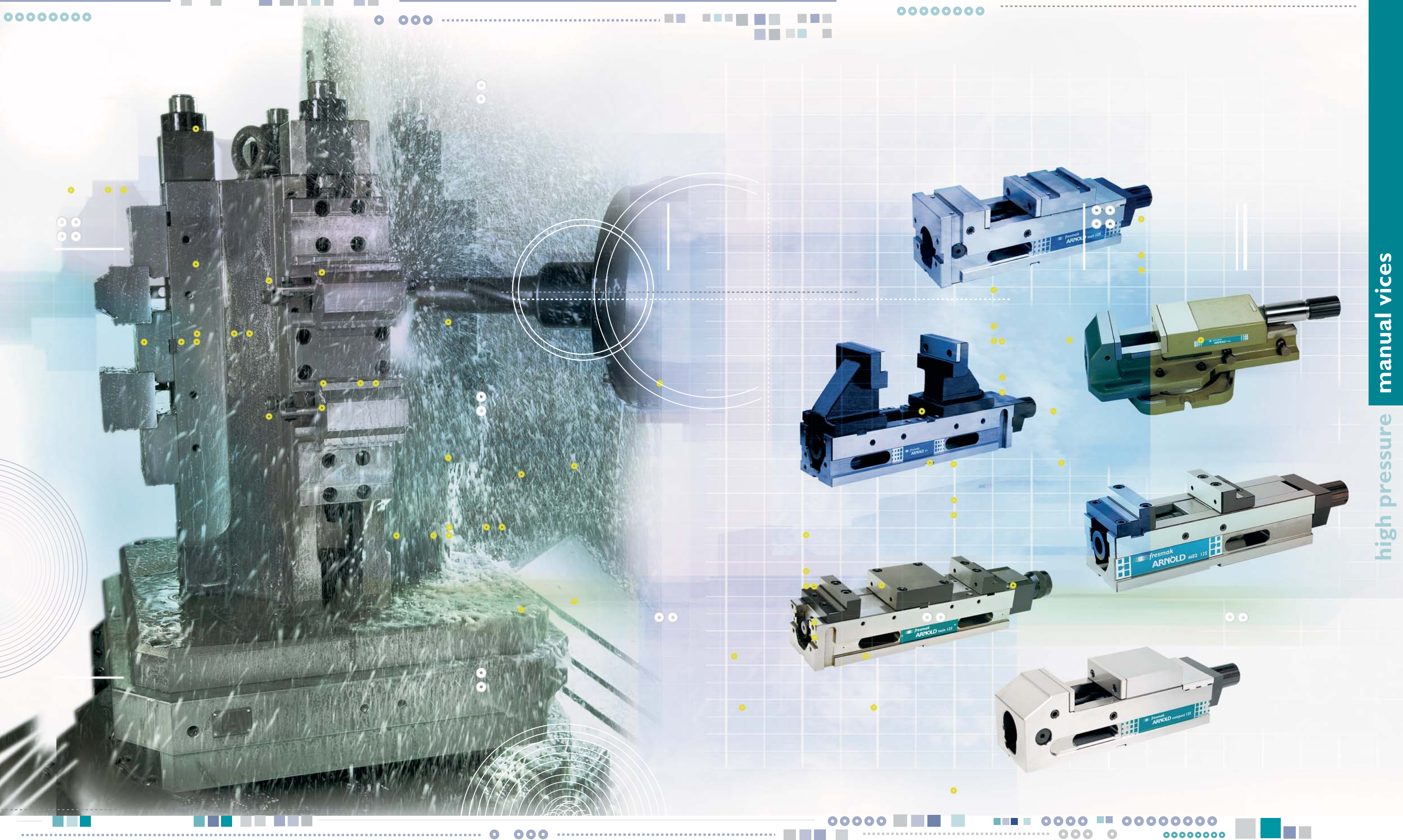
VICE MODEL	Pag.	MACHINES										TYPE OF MACHINING/WORK-PIECE							
		milling machine	drilling machine	tapping machine	grinding machine	jig borer	vertical machining	horizontal machining	5-axis machining	1 work-piece centre	2 work-piece centre	serial production	automated work	large pieces	long pieces (0.4m or more)	soft metal pieces	hard metal pieces	tall side clamped pieces	
<b>ARNOLD</b>																			
Mechanical vice with/without regulator	24	■	■	■	●	●	●				■	◇		■	◇		■		
Hydraulic vice with/without regulator	22	■	■	■	●	●	●				■	◇		■	◇		■		
Oleo-dynamic vice	54	■	■								■	■	■	■	■		■		
Pneumatic-hydraulic vice	56	■	■								■	■	■	■	◇		■	■	
<b>ARNOLD MAT</b>																			
Mechanical with/without regulator	12	■	■	■	■	■	■	■	◇	■	■	◇		■	◇		■	■	■
Hydraulic with/without regulator	14	■	■	■	■	■	■	■	◇	■	■	◇		■	◇		■	■	■
Oleo-dynamic	38	■	◇	◇			■	■		■	■	■	■	■	■		■	■	■
Pneumatic -hydraulic	42	■	◇	◇			■	◇		■	■	■	■	■	◇		■	■	■
Prox	16	■	◇	◇			■	■	◇	■	■	◇		■	◇		■	■	■
Automat	40	■	◇	◇			■	■		■	■	■	■	■	■		■	■	■
<b>ARNOLD COMPACT</b>																			
Mechanical with/without regulator	28	■	■	■	■	■	■	■	●	■	■	◇		■	◇		■		
Oleo-dynamic	58	■	■	■	■	■	■			■	■	■	■	■	■		■		
<b>ARNOLD TWIN</b>																			
Mechanical with/without regulator	18	■	◇	■	■	■	■	■	◇	■	■	◇		■	◇		■	■	■
Oleo-dynamic	44	■	◇	◇			■	■	◇	■	■	■	■	■	■		■	■	■
Pneumatic-hydraulic	46	■	◇	◇			■	◇	◇	■	■	■	■	■	◇		■	■	■
<b>ARNOLD 5X</b>	30						■	■	■	■	■	◇							■
<b>ARNOLD SC</b>	32	■	■	■	■	■	■	■	■	■	■	◇							■
<b>ARNOLD MB2</b>	26	■	■	■	■	■	■	■	◇	■	■	◇		■	◇		■		
<b>ARNOLD IZI</b>	50	■	◇	◇			■	■		■	■	■							■
<b>ARNOLD IZ2</b>	52	■	◇	◇			■	■		■	■	■							■

- Ideal
- ◇ Suitable
- Suitable with reservations

**Regulator:** All vices fitted with regulators are especially suitable for working with materials with different hardnesses.

All the oleo-dynamic and Pneumatic-hydraulic clamps are adjustable.

# HIGH PRESSURE manual vices



high pressure manual vices

# Selection table

## HIGH PRESSURE manual vices

The information included in this table is limited to our range of high pressure manually operated vices. This table offers the user information on selecting the best type of vice to suit their needs.

VICE MODEL	Pag.	MACHINES										TYPE OF MACHINING/PART						
		milling machine	drilling machines	tapping machine	grinding machine	jig borer	vertical machining centre	horizontal machining centre	5-axis machining centre	1 work-piece centre	2 work-piece centre	serial production	automated work	large pieces	long pieces (0.4m or more)	soft metal pieces	hard metal pieces	tall side clamped pieces
<b>ARNOLD</b>																		
Mechanical with/without regulator	24	■	■	■	●	●			■	◆	■	◆	■	■				
Hydraulic with/without regulator	22	■	■	■	●	●			■	◆	■	◆	■	■				
<b>ARNOLD MAT</b>																		
Mechanical with/without regulator	12	■	■	■	■	■	■	◆	■	◆	■	◆	■	■	■	■	■	■
Hydraulic with/without regulator	14	■	■	■	■	■	■	◆	■	◆	■	◆	■	■	■	■	■	■
Prox	16	■	◆	◆			■	◆	■	◆	■	◆	■	■	■	■	■	■
<b>ARNOLD COMPACT</b>							■											
Mechanical with/without regulator	28	■	■	■	■	■		●	■	◆	■	◆	■	■				
<b>ARNOLD TWIN</b>																		
Hydraulic with/without regulator	18	■	◆	■	■	■	■	◆	■	◆	■	◆	■	■	■	■	■	■
<b>ARNOLD 5X</b>	30						■	■	■	◆								■
<b>ARNOLD SC</b>	32	■	■	■	■	■		■	■	◆								■
<b>ARNOLD MB2</b>	26	■	■	■	■	■		◆	■	◆	■	◆	■	■				■

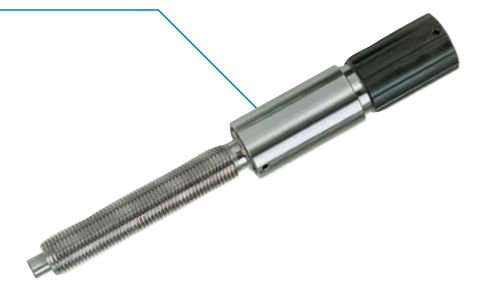
- Ideal
- ◆ Suitable
- Suitable with reservations

**Regulator:** All vices fitted with regulators are specially suitable for working with materials of different hardnesses.

# Spindles

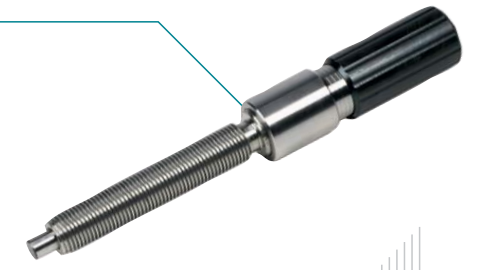
## Mechanical spindle

The intensifier system on these spindles is based on a series of elements which, as one supports the other, are able to obtain a power intensifying effect by means of a handle (not reaching 2.5kg x m). The basic principles of this system are wedge and roll. The mechanical spindle is easy to assemble and disassemble and needs practically no maintenance, making it a long-lasting system like no other.



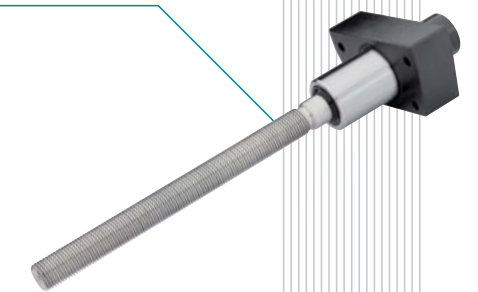
## Hydraulic spindle

The basis of the intensifying hydraulic spindle is that it works with a closed oil cylinder. On inserting the piston into the chamber, the pressure due to the section differences or diameters intensifies with little effort. The movement is light; this is noted on turning the handle which is also smooth. As these are hollow spindles, the force is transmitted inside the threaded spindle. Therefore this carries out only the stroke movement, and enjoys long-lasting wear as it does not have to carry out any clamping force.



## Prox Spindle

This spindle provides a different clamping solution to that of the rest of the models. This means that the operator can place the piece as near as possible to the machine door, avoiding outstretching of the arms in order to place it on top of the vice. This attribute makes it a very ergonomic spindle. In this case the spindle is not pushed but the threaded spindle is pulled towards the support end flange. The spindle is fitted on the back part of the ARNOLD MAT vice. Like other ARNOLD spindles, it has two different parts; on the one hand the clutch and on the other the intensifying system. In this case the difference is with the intensifier system. The clamping force is 4/5 tons. Its reduced size makes it specially ideal for machining centres. It can be applied to the different ARNOLD MAT vice models.



## Regulator

This part offers the possibility of step regulation of the pressure to be used before starting the job, and thus obtaining the repeatability of the clamping force required.

high pressure manual vices

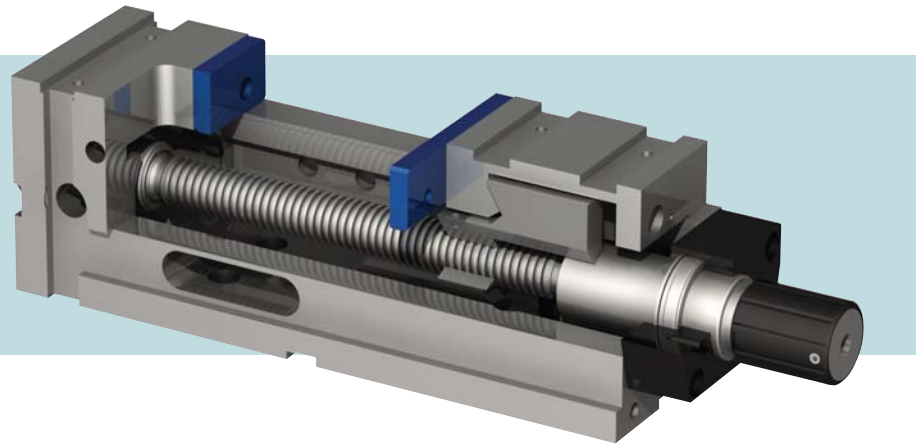
# HIGH PRESSURE MANUAL vices for all

types of machines

## Arnold Mat MECHANICAL

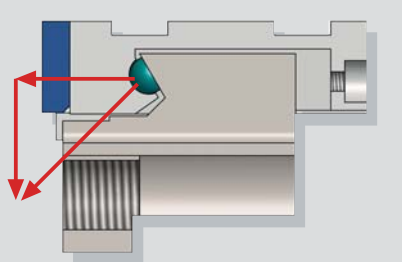
### ARNOLD MAT MECHANICAL

vices, maintain their length irrespective of the size of the part, being specially ideal for use in machining centres.



- Possible working positions: supported on the base, on the side or on the head vertically.
- Suitable for working in horizontal and vertical machining centres.
- Grinding of all surfaces with a parallelism and perpendicularity of 0.02 mm.
- 0.01 mm clamping repeatability.
- Monoblock design avoids deformations due to high pressure and offers great rigidity.
- Side windows to enable the interior cleaning of the vices.
- Fitted with high pressure mechanical intensifier.
- The clamping force is 2.5/4/5 tons, depending on the size.
- Power regulator optional.
- The constant clamping force avoids having to reposition the part from one day to the next. This characteristic makes it ideal for long term machining.
- Angle driver for handle clearance available.

### Semi-sphere



The ARNOLD MAT has a descending clamp system to avoid that the clamped part lifts up. This is a semi-sphere installed between the moveable jaw and the spindle shoe.

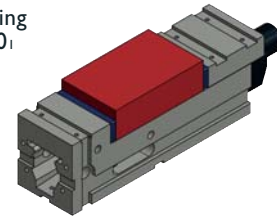
When the clamping force is carried out by the spindle, this pressure is divided in two directions, one of which pulls down on the work-piece.

- This high pressure mechanical spindle does not require any maintenance, as long as optimal coolant liquids are used.
- The ARNOLD mat mechanical vice has two clamping possibilities, either towards the fixed head or the opposite direction. Normal clamping is towards the fixed head (this is how the vice is supplied). Should clamping towards the interior be needed, just place the spindle on the rear part of the fixed head, clamped by four screws. Then rotate the spindle shoe and the moveable jaw.

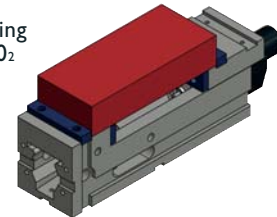


### Clamping possibilities

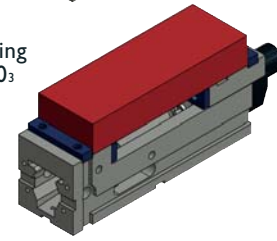
Clamping field 0<sub>1</sub>



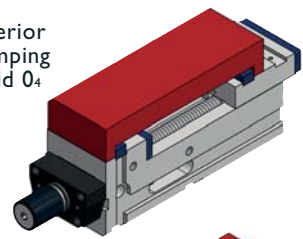
Clamping field 0<sub>2</sub>



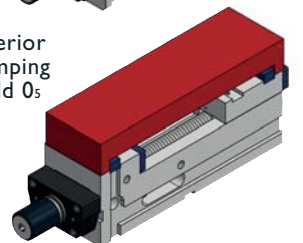
Clamping field 0<sub>3</sub>



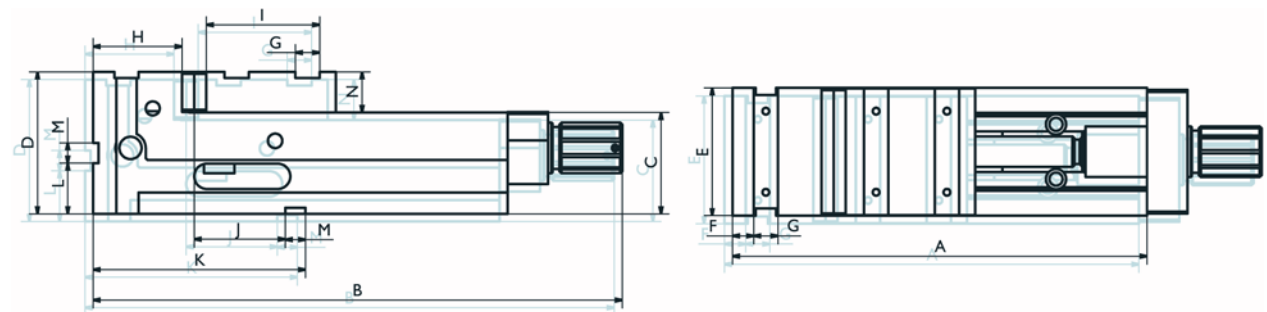
Interior clamping field 0<sub>4</sub>



Interior clamping field 0<sub>5</sub>



Size	090	125	160	200
Arnold Mat Mechanical	020 120 090	020 120 125	020 120 160	020 120 200
Arnold Mat Mechanical with regulator		020 130 125	020 130 160	020 130 200
Clamping force (kg)	2.500	4.000	5.000	5.000
A	300	410	570	570
B	387	524	679	679
B (with regulator)		551	704	704
C - 0,02	75	100	110	110
D	115	140	160	173
E	91	126	161	201
F	21	21	21	21
G	20	24	24	24
H	58	88	99	99
I	55	112	112	112
J + 0,02	40	90	115	111
K	130	210	250	250
L	40	50	60	60
M H7	20	20	20	20
N	40	40	50	63
Weight (kg)	16	35	70	93
Clampings	090	125	160	200
Clamping field 0 <sub>1</sub>	0 - 130	0 - 200	0 - 314	0 - 304
Clamping field 0 <sub>2</sub>	76 - 207	80 - 285	106 - 420	114 - 418
Clamping field 0 <sub>3</sub>		150 - 355	174 - 488	182 - 486
Clamping field 0 <sub>4</sub>	113 - 170	119 - 191	133 - 334	140 - 344
Clamping field 0 <sub>5</sub>		189 - 261	201 - 402	208 - 405



### Set supplied

- base body
- mechanical spindle
- 1 set of plain jaws
- 1 handle
- 4 end clamps
- instruction manual

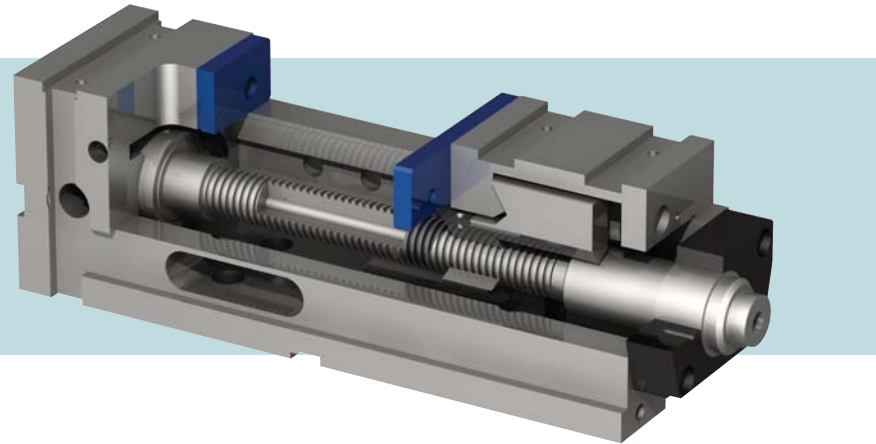




# HIGH PRESSURE MANUAL vices for all

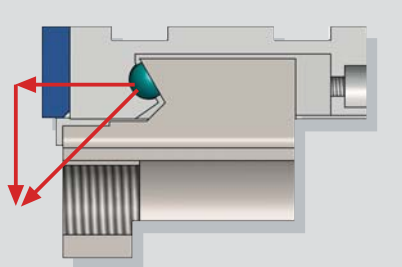
## Arnold Mat HYDRAULIC

High Pressure ARNOLD MAT HYDRAULIC vices, maintain their length irrespective of the size of the part, being specially ideal for use in machining centres.



- Possible working positions: supported on the base, on the side or on the head vertically.
- Suitable for working in horizontal and vertical machining centres.
- All surfaces ground with a parallelism and perpendicularity of 0.02 mm.
- 0.01 mm clamping repeatability.
- Monoblock design avoids deformations due to high pressure and offers great rigidity.
- Side windows to enable the interior cleaning of the vices.
- Fitted with a high pressure hydraulic intensifier incorporated into the spindle, which maintains the clamping force for hours.
- The clamping force is 2.5/4/5 tons depending on the size.
- Power regulator optional.
- Ideal for long lasting machining.
- Angle driver for handle clearance available.

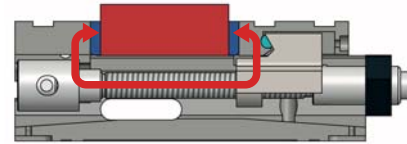
### Semi-sphere



The ARNOLD MAT has a descending clamp system to avoid that the clamped part lifts up. This is a semi-sphere installed between the moveable jaw and the spindle shoe.

When the clamping force is carried out by the spindle, this pressure is divided in two directions, one of which pulls down on the work-piece.

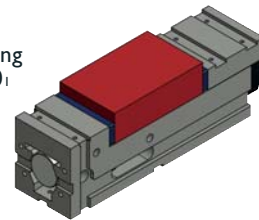
### Compensated clamp



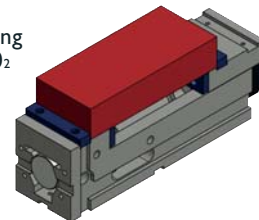
- These vices provide an enveloping clamp. The spindle does not push the moveable jaw from the end clamp, but it pulls it from the head.
- This effect means that the head of the vice and the work-piece suffer less deformation stress with high pressure.

### Clamping possibilities

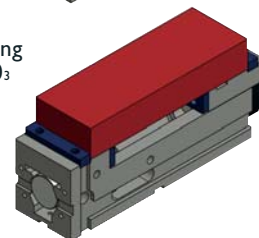
Clamping field 0<sub>1</sub>



Clamping field 0<sub>2</sub>

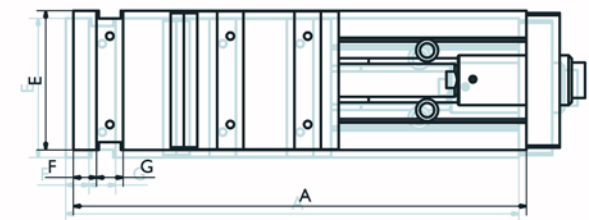
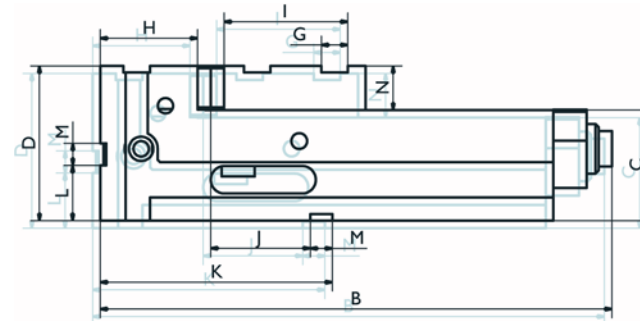


Clamping field 0<sub>3</sub>



# types of machines

Size	090	125	160	200
Arnold Mat Hydraulic	020 200 090	020 200 125	020 200 160	020 200 200
Arnold Mat Hydraulic with regulator		020 210 125	020 210 160	020 210 200
Clamping force (kg)	2.500	4.000	5.000	5.000
A	300	410	570	570
B	360	463	622	622
B (with regulator)		528	687	687
C - 0,02	75	100	110	110
D	115	140	160	173
E	91	126	161	201
F	21	21	21	21
G	20	24	24	24
H	58	88	99	99
I	55	112	112	112
J + 0,02	40	90	115	111
K	130	210	250	250
L	40	50	60	60
M H7	20	20	20	20
N	40	40	50	63
Weight (kg)	16	35	70	93
Clampings	090	125	160	200
Clamping field 0 <sub>1</sub>	0 - 130	0 - 200	0 - 314	0 - 304
Clamping field 0 <sub>2</sub>	76 - 207	80 - 285	106 - 420	114 - 418
Clamping field 0 <sub>3</sub>		150 - 355	174 - 488	182 - 486



### Set supplied

- base body
- hydraulic spindle
- 1 set of plain jaws
- 1 handle
- 4 end clamps
- instruction manual

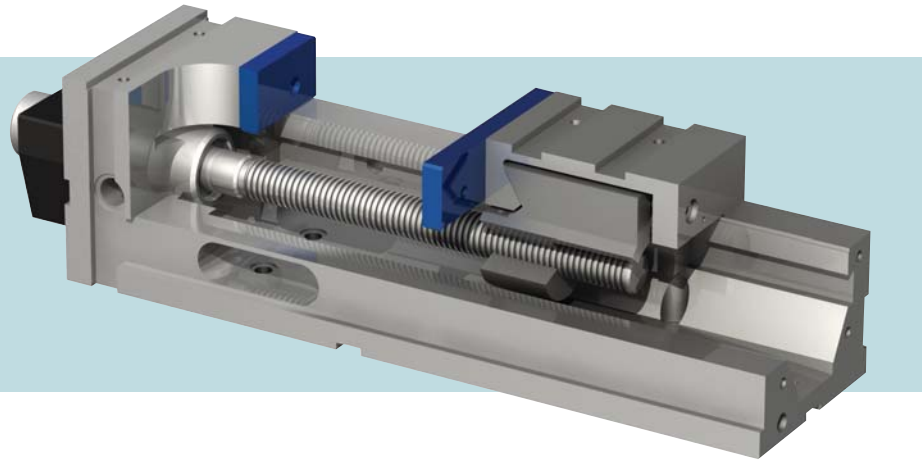


# HIGH PRESSURE MANUAL vices for all

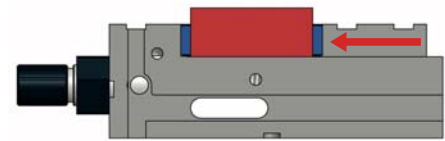
types of machines

## Arnold Mat PROX

High Pressure ARNOLD MAT PROX vices, clamp towards the fixed head and keep the length constant irrespective of the size of the work-piece, specially ideal for use in machining centres.

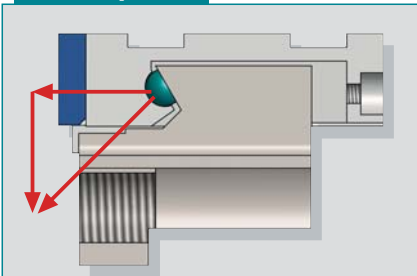


- Possible working positions: supported on the base, on the side or on the keyways vertically.
- All surfaces ground with a parallelism and perpendicularity of 0.02 mm.
- 0.01 mm clamping repeatability.
- Monoblock design avoids deformations due to high pressure and offers great rigidity.
- High pressure hydraulic intensifier.
- The spindle houses the handle on the rear part of the vice fixed head.



- Clamping force is 4/5 tons.
- Side windows to enable the interior cleaning of the vices.
- Ideal for long machining runs.

### Semi-sphere



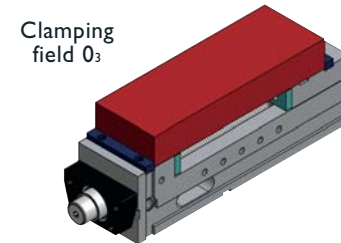
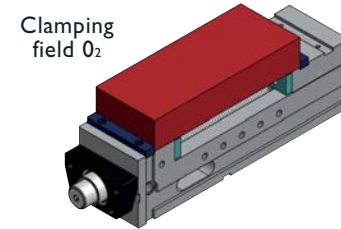
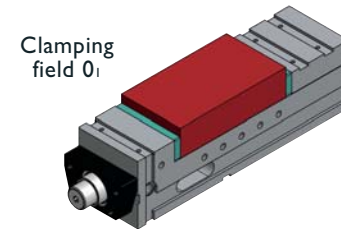
The ARNOLD MAT has a descending clamp system to avoid that the clamped part lifts up. This is a semi-sphere installed between the moveable jaw and the spindle shoe.

When the clamping force is carried out by the spindle, this pressure is divided in two directions, one of which pulls down on the work-piece.

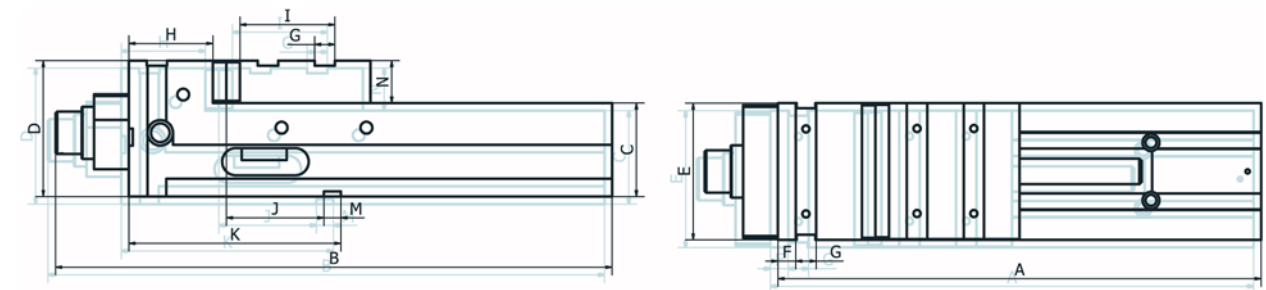


### Clamping possibilities

The ARNOLD mat prox clamps on the opposite direction to the rest, i.e.: it clamps towards the fixed head. This system enables the operator to place large or heavy work-pieces in the vice with more ease.



Size	125	160	200
<b>Arnold Mat Prox</b>	<b>080 200 125</b>	<b>080 200 160</b>	<b>080 200 200</b>
Clamping force (kg)	4.000	5.000	5.000
A	410	570	570
B	506	666	666
C - 0.02	100	110	110
D	140	160	173
E	126	161	201
F	21	21	21
G	24	24	24
H	88	99	99
I	112	112	112
J	90	115	111
K	210	250	250
M H7	20	20	20
N	40	50	63
<b>Clampings</b>	<b>125</b>	<b>160</b>	<b>200</b>
Clamping field 0 <sub>1</sub>	0 - 200	0 - 314	0 - 304
Clamping field 0 <sub>2</sub>	80 - 285	106 - 420	114 - 418
Clamping field 0 <sub>3</sub>	155 - 355	174 - 488	182 - 486



### Set supplied

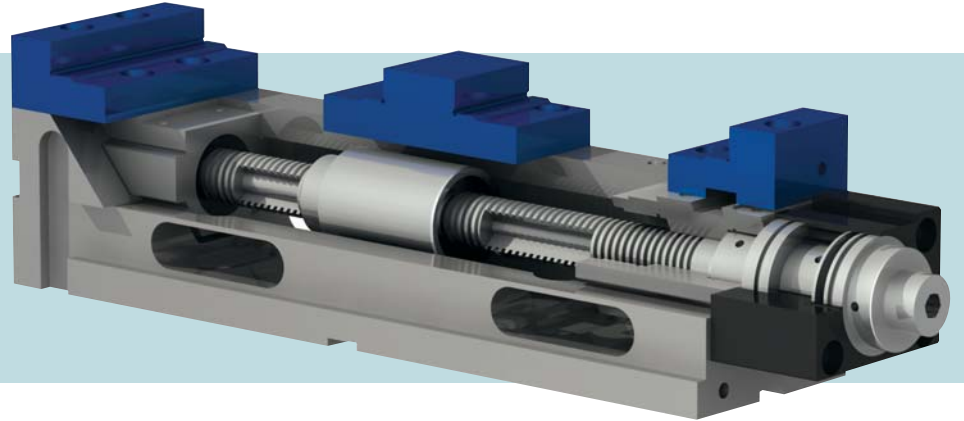
- base body
- operator clamp spindle
- 1 set of plain jaws
- 1 handle
- 4 end clamps
- instruction manual



# HIGH PRESSURE MANUAL vices for all

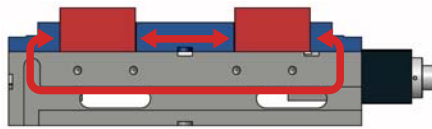
## Arnold Twin HYDRAULIC

ARNOLD TWIN HYDRAULIC High Pressure vices are capable of clamping two pieces simultaneously with one single movement of the handle, keeping the total length constant. This makes it ideal for machining series of work-pieces in machining centres.



- Main components in nodular cast iron.
- Grinding of all surfaces.
- Possible working positions: supported on the base, on the side or vertically on the head.
- Suitable for working in horizontal and vertical machining centres.
- 0.01 mm clamping repeatability .
- High pressure hydraulic intensifier incorporated into the spindle, which keeps the clamping force for hours.
- 2.5/5 tons of force without stress and with manual operation. Ideal for large clamping and long clamping operations.
- Side windows for easy swarf evacuation.

### Compensated clamp



- The exterior clamping system towards the centre makes the elevated forces in the clamp area to be compensated dynamically thus avoiding deformations.

### 3rd Hand

Function which permits first one work-piece to be clamped and then the other, enabling it to be fitted in the vertical position.

Operation of the 3rd Hand: By turning the handle bring the moveable jaw I towards the work-piece situated in station I until it is clamped.

Maintaining the turn bring moveable jaw II towards the work-piece situated in station II until it is clamped.

Continuing with the turn, jumpstart the intensifier and start to clamp with high pressure.

### Clamping possibilities

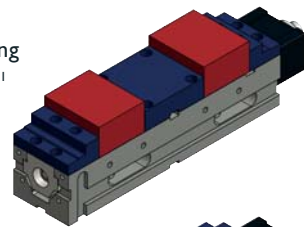
Two work-pieces can be clamped at the same time, with a difference in size between them of 3 mm, or one single work-piece. The ARNOLD TWIN vice permits six different types of clamp, interchanging the standard jaw position. This is achieved, either by rotating the side jaws and fitting the stepped central jaw, or by fitting any of the central jaws on the side closest to the handle.



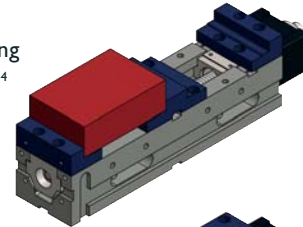
- Hard jaws suitable for fitting special Fresmak jaws.
- Possibility of working with soft jaws in accordance with the geometrical requirements of the piece.
- Angle driver for handle clearance available.
- Set of standardised soft jaws available.



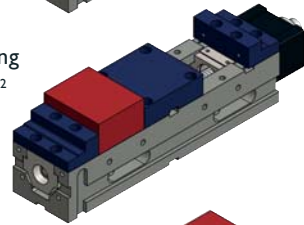
Clamping field 0<sub>1</sub>



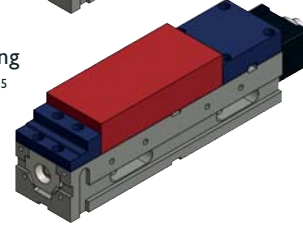
Clamping field 0<sub>4</sub>



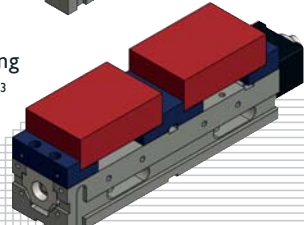
Clamping field 0<sub>2</sub>



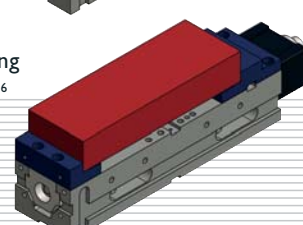
Clamping field 0<sub>5</sub>



Clamping field 0<sub>3</sub>

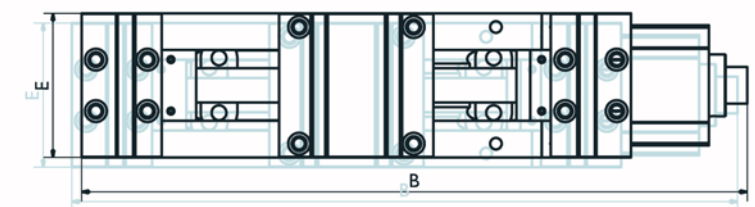
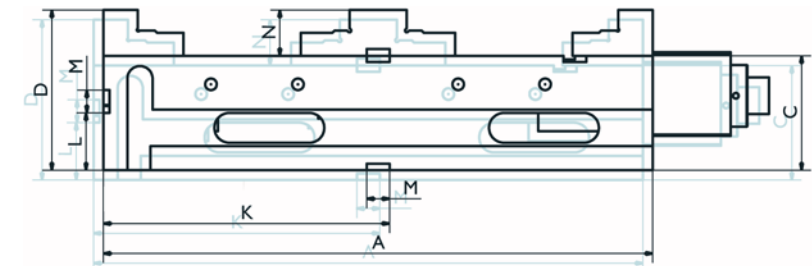
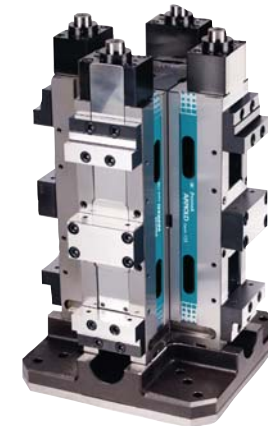


Clamping field 0<sub>6</sub>



## types of machines

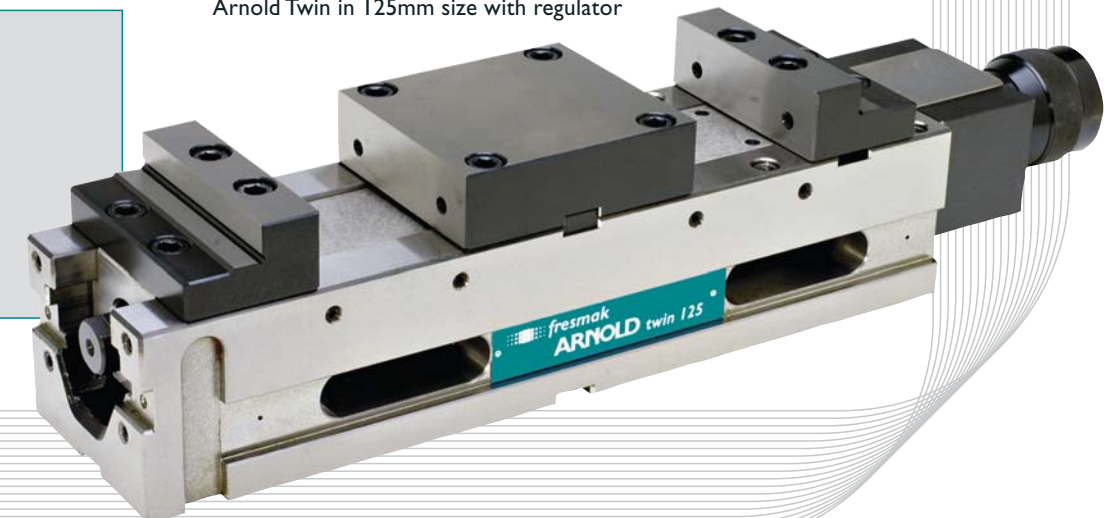
Size	090	125		
Arnold Twin Hidráulica	040 410 090	040 410 125		
A	400	480		
B	489	656		
C	75	100		
D	115	140		
E	91	126		
K	210	250		
L	40	50		
M H7	20	20		
N	40	40		
Clamping force (kg)	2.500 x 2	5.000 x 2		
Weight (kg)	25	45		
Position	Horizontal and cubes	Vertical and plates	Horizontal and cubes	Vertical and plates
Clamping field 0 <sub>1</sub>	0-80	0-68	0-99	0-84
Clamping field 0 <sub>2</sub>	0-92	0-80	0-114	0-99
Clamping field 0 <sub>3</sub>	66-145	66-133	83-181	83-166
Clamping field 0 <sub>4</sub>	66-157	66-133	83-196	83-166
Clamping field 0 <sub>5</sub>	140-221	140-209	180-286	180-271
Clamping field 0 <sub>6</sub>	198-286	198-274	262-368	262-353



### Set supplied

- base body
- hydraulic spindle
- 1 set of plain jaws
  - 2 x side jaws
  - 1 central jaw I (stepped)
  - 1 central jaw II (block)
- 1 handle
- 4 end clamps
- instruction manual

Arnold Twin in 125mm size with regulator



# HIGH PRESSURE MANUAL vices for all

## Tombstones MAT

# types of machines

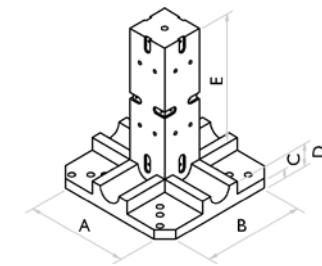
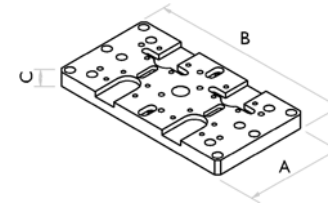
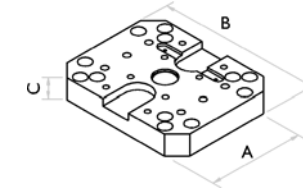
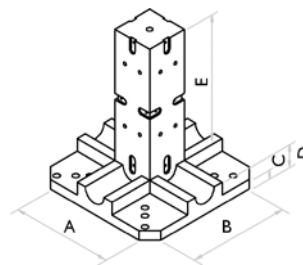
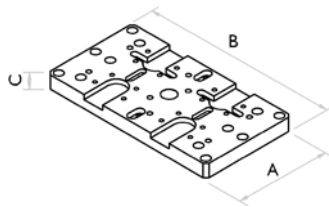
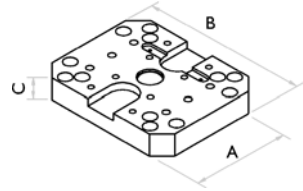
## TWIN cubes

Size	090	125	160	200
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Duo Base Plate	890 010 090	890 010 125	890 010 160	890 010 200
A	236	234	300	320
B	236	290	360	440
C	45	45	45	45
Weight (kg)	16	17	20	43

Double Duo Base Plate	890 020 090	890 020 125	890 020 160	890 020 200
A	220	290	310	336
B	410	540	556	620
C	42	42	42	42
Weight (kg)	29	54	58	62

Cube 4x90°	890 030 090	890 030 125	890 030 160	890 030 200
A	400	400	500	547
B	400	400	500	547
C	50	42	50	50
D	70	62	70	70
E	300	418	570	570
Weight (kg)	63	117	213	271

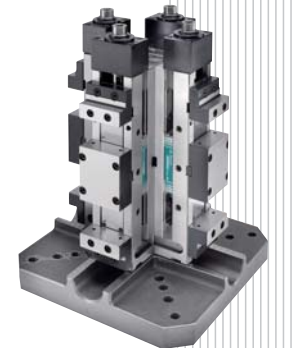


Size	090	125
------	-----	-----

Duo Base Plate	890 014 090	890 014 125
A	236	234
B	236	290
C	45	45
Weight (kg)	16	17

Double Duo Base Plate	890 024 090	890024125
A	220	290
B	410	540
C	42	42
Weight (kg)	29	54

Cube 4x90°	890 034 090	890 034 125
A	400	400
B	400	400
C	50	50
D	70	62
E	400	488
Weight (kg)	63	117

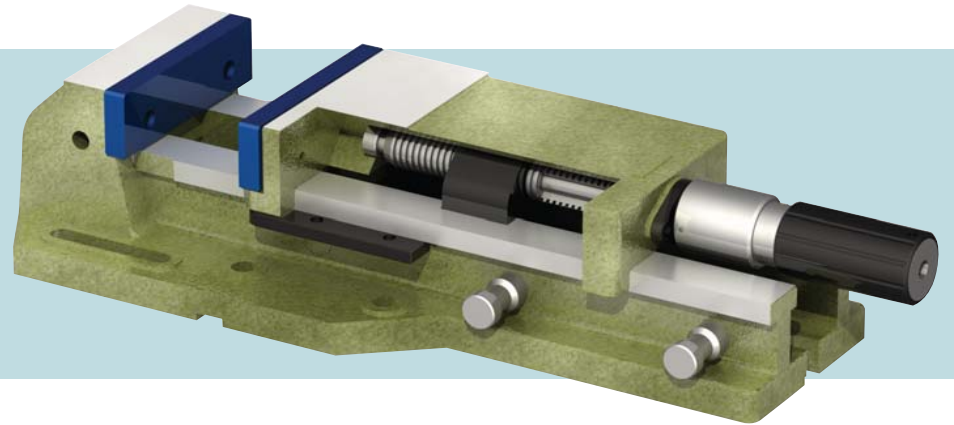


# HIGH PRESSURE MANUAL vices for milling

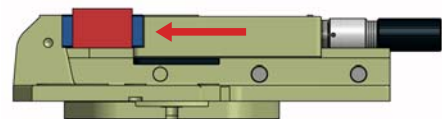
# machine and drilling machine

## Arnold HYDRAULIC

High Pressure ARNOLD HYDRAULIC vices achieve a clamping force of up to 8 tons using the simple turn of the handle without any effort. This advantage makes them ideal for heavy duty clamping in milling machines, drilling machines and threading machines.



- 0.01 mm clamping repeatability.
- Monoblock design avoids deformations with high pressure and offers great rigidity.
- Large opening up to 375 mm and 845 mm if the body is in two parts.
- The clamping force is 2.4/5/8 tons depending on the size.
- Fitted with a high pressure hydraulic intensifier which does not require any external supply.
- The force applied by the high pressure spindle is transmitted to the work-piece in the exact centre of the clamping jaw.
- Permanent clamping force avoids repositioning the work-piece from one day to the next. This advantage makes it ideal for long term machining.
- Optional power regulator.
- Up to eleven different types of standard jaws.



### VERSIONS

#### 1. Standard vice.

- Standard shape highly valued for decades.
- Clamping to the machine table is carried out through the lengthwise orifices and slots of the vice.
- Can be supplied with a rotary base.



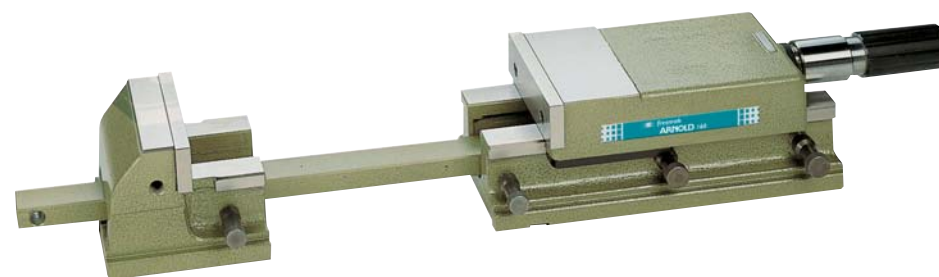
#### 2. Straight vice.

- The narrow figure enables one to be placed alongside another, making up a large clamping unit for large work-pieces.

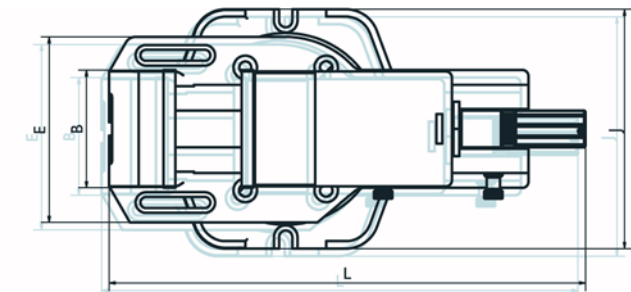
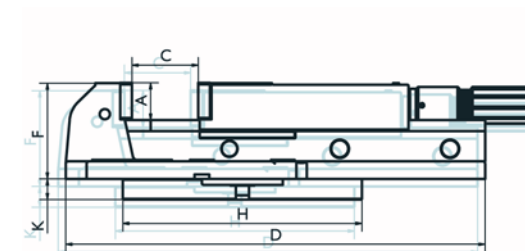


#### 3. Two part straight vice.

- Able to clamp any work-piece however large it is.
- Clamps the work-pieces on top of the guides or on top of the table.
- An inner tie-rod joins the two parts of the vice.



Size	090	125	160	200
Arnold Hydraulic	010 010 090	010 010 125	010 010 160	010 010 200
Arnold Hydraulic with regulator		010 110 125	010 110 160	010 110 200
Arnold Hydraulic with base	010 011 090	010 011 125	010 011 160	010 011 200
Arnold Hydraulic with base + regulator		010 111 125	010 111 160	010 111 200
Arnold straight Hydraulic	010 012 090	010 012 125	010 012 160	010 012 200
Arnold straight Hydraulic with regulator		010 112 125	010 112 160	010 112 200
Two part Arnold hydraulic			010 013 160	010 013 200
Clamping force (kg)	2.500	4.000	5.000	8.000
A	40,5	42,5	50,5	63,5
B	90	125	160	200
C				
Clamping field 1	0 - 80	0 - 105	0 - 155	0 - 210
Clamping field 2	75 - 155	100 - 205	150 - 305	165 - 375
D	355	425	570	680
E	162	197	252	302
F	92	107	130	160
F (Straight vice)	92	112	139	164
L	415 - 570	480 - 685	565 - 870	720 - 1.095
Vice weight (kg)	13	26	51	94
Base	800 450 090	800 450 125	800 450 160	800 450 200
H	220	264	325	400
J	230	270	325	400
K	25	28	32	45
Base weight (kg)	5	8	15	32



#### Set supplied

- base body
- hydraulic spindle
- 1 set of plain jaws
- 1 handle
- 4 end clamps
- instruction manual

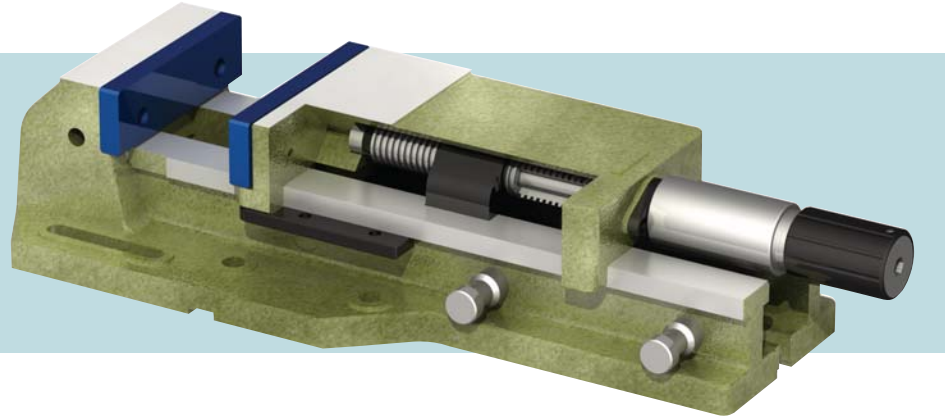


# HIGH PRESSURE MANUAL vices for milling

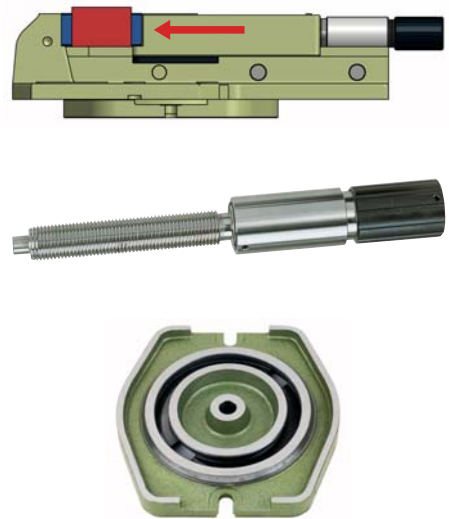
# machine and drilling machine

## Arnold MECHANICAL

High Pressure ARNOLD MECHANICAL vices achieve a clamping force of up to 8 tons using the simple turn of the handle without any effort. This advantage makes them ideal for heavy duty clamping in milling machines, drilling machines and threading machines.



- 0.01 mm clamping repeatability.
- Monoblock design to avoid deformation due to high pressure and great rigidity.
- Large opening, up to 375 mm and 845 mm if the body is in two parts.
- Clamping force is 2.5/4/5/8 tons according to size.
- Fitted with high pressure mechanical intensifier.
- The force applied by the high pressure spindle is transmitted to the work-piece in the exact centre of the clamping jaw.
- Permanent clamping force avoids repositioning the work-piece one day to the next.
- Ideal for long lasting machining.
- Optional power regulator.
- Up to eleven different types of standard jaws.



### VERSIONS

#### 1. Standard vice.

- Standard shape highly valued for decades.
- Clamping to the machine table is carried out through the lengthwise orifices and slots of the vice.
- Can be supplied with a rotary base.



#### 2. Straight vice.

- The narrow figure enables one to be placed alongside the other, making up a large clamping unit for large work-pieces.

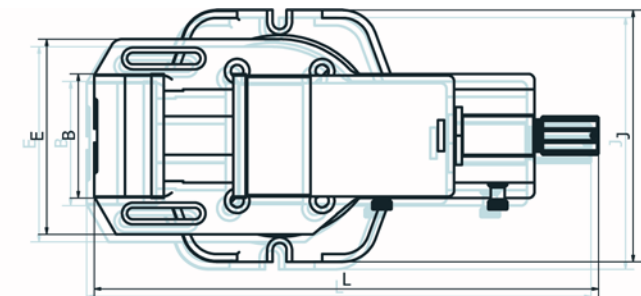
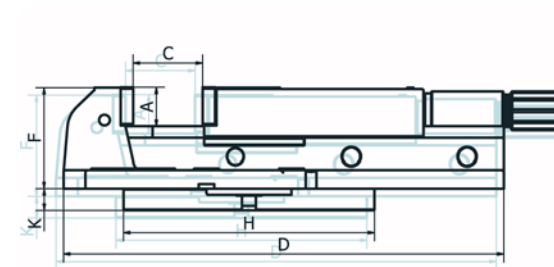


#### 3. Two part straight vice

- Able to clamp any work-piece however large it is.
- Clamp the work-pieces on top of the guides or on top of the table.
- An inner tie-rod joins one of the two work-pieces of the vice.



Size	090	125	160	200
Arnold Mechanical	010 200 090	010 200 125	010 200 160	010 200 200
Arnold Mechanical with regulator		010 210 125	010 210 160	
Arnold Mechanical with base	010 201 090	010 201 125	010 201 160	010 201 200
Arnold Mechanical with base and regulator		010 211 125	010 211 160	
Straight Arnold Mechanical	010 202 090	010 202 125	010 202 160	010 202 200
Straight Arnold Mechanical with regulator		010 212 125	010 212 160	
Two part Arnold Mechanical			010 203 160	010 203 200
Clamping force (kg)	2.500	4.000	5.000	8.000
A	40,5	42,5	50,5	63,5
B	90	125	160	200
C	Clamping field 1	0 - 80	0 - 105	0 - 155
	Clamping field 2	75 - 155	100 - 205	150 - 305
D	355	425	570	680
E	162	197	252	302
F	92	112	139	164
F (Straight vice)	92	150	150	150
L	395 - 550	485 - 690	570 - 875	720 - 1.100
Vice weight (kg)	13	26	51	94
Base	800 450 090	800 450 125	800 450 160	800 450 200
H	220	264	325	400
J	230	270	325	400
K	25	28	32	45
Base weight (kg)	5	8	15	32



#### Set supplied

- base body
- mechanical spindle
- 1 set of plain jaws
- 1 handle
- 4 end clamps
- instruction manual

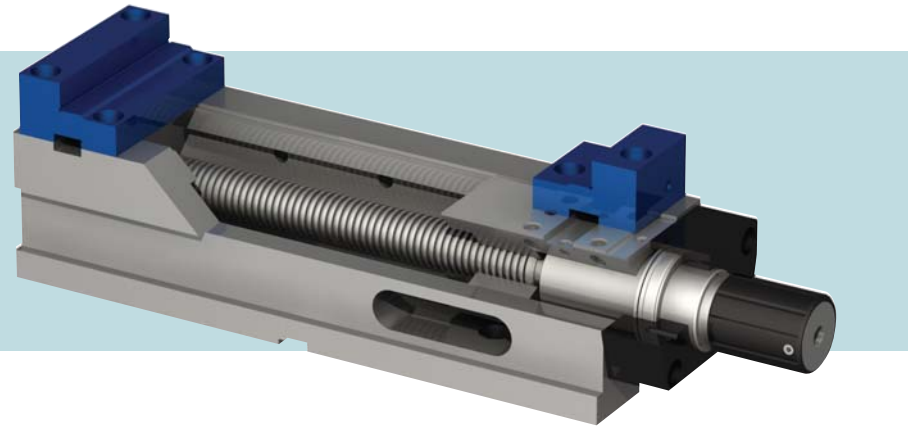


# HIGH PRESSURE MANUAL vices for

# vertical machining centres

## Arnold MB2 MECHANICAL

High Pressure ARNOLD MB2 vices, maintain their length irrespective of the size of the work-piece, being specially ideal for the use in machining centres.



- Main components in nodular cast iron GGG70.
- Suitable for working in vertical machining centres.
- 0.01 mm clamping repeatability.
- Fitted with high pressure mechanical intensifier.
- Does not require any maintenance, as long as the optimal coolant liquids are used.
- Double spindle protection: It has a spiral spring in front and a protection plate attached to the spindle shoe behind.
- Clamping force is 4/5 tons.
- Permanent clamping force avoids repositioning the work-piece one day to the next.
- Ideal for long lasting machining.
- Optional power regulator.
- Side windows to enable the interior cleaning of the vices.
- Angle driver for handle clearance available.



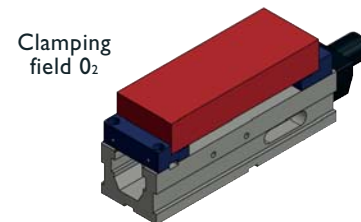
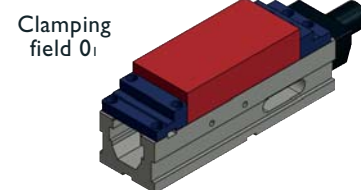
- Designed to work with interchangeable jaws
- Standard jaws can be placed in two positions, obtaining great capacity for a reduced total dimension.
- Clamping field up to 330/430 mm.
- Possibility of working with soft jaws in accordance with the geometrical requirements of the work-piece.



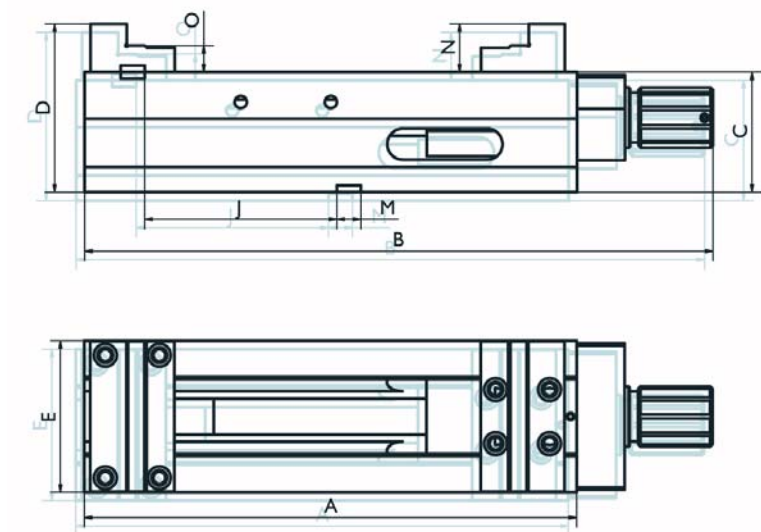
- Can be clamped to the table either by the four standard flanges incorporated or by using four screws in the inside of the body.
- 5X 125M high jaws available.



### Clamping possibilities



Size	125	125	160	160
Arnold MB2 Mechanical	060 121 125		060 121 160	
Arnold MB2 Mechanical with regulator		060 131 125		060 131 160
Clamping force (kg)	4.000	4.000	5.000	5.000
A	410	410	530	530
B	524	551	639	666
C	100 - 0,02	100 - 0,02	115 - 0,02	115 - 0,02
D	139	139	165	165
E	126	126	161	161
J	140 + 0,02	140 + 0,02	158 + 0,02	158 + 0,02
M	20H7	20H7	20H7	20H7
N	40	40	50	50
O	22	22	30	30
Weight (kg)	35	35	61	61
Clamping field 0 <sub>1</sub>	0 - 250	0 - 250	0 - 310	0 - 310
Clamping field 0 <sub>2</sub>	80 - 330	80 - 330	120 - 430	120 - 430



### Set supplied

- base body
- mechanical spindle
- 1 set of stepped jaws
- 1 handle
- 4 end clamps
- instruction manual

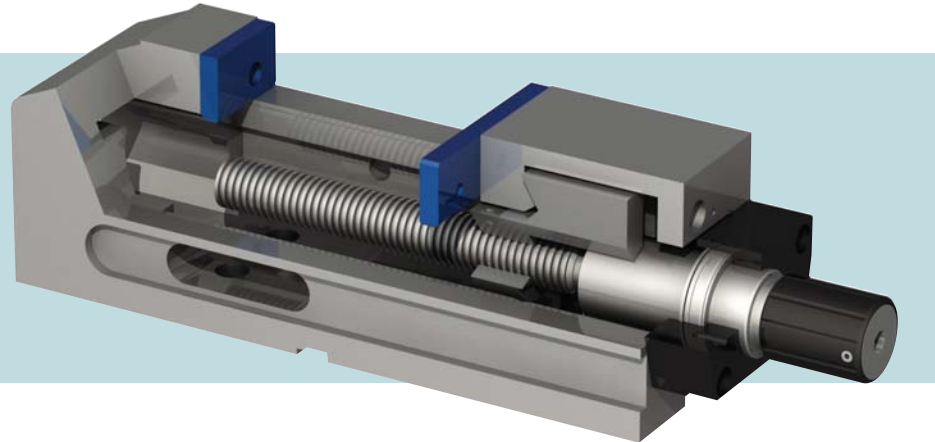


# HIGH PRESSURE MANUAL vices for

# vertical machining centres

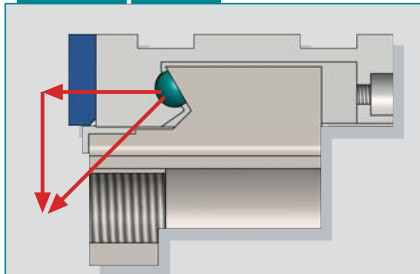
## Arnold Compact MECHANICAL

High Pressure ARNOLD COMPACT MECHANICAL vices, maintain their length irrespective of the size of the work-piece, being specially ideal for use in machining centres.



- Suitable for working in vertical machining centres.
- 0.01 mm clamping repeatability.
- Monoblock design avoids deformations due to high pressure and offers great rigidity.
- Side windows to enable the interior cleaning of the vices.
- Fitted with a high pressure mechanical intensifier.
- Clamping force is 2.5/4/5 tons according to size.
- Optional power regulator.
- Permanent clamping force avoids repositioning the work-piece one day to the next.
- This advantage makes it ideal for long term machining.
- Angle driver for handle clearance available.

### Semi-sphere

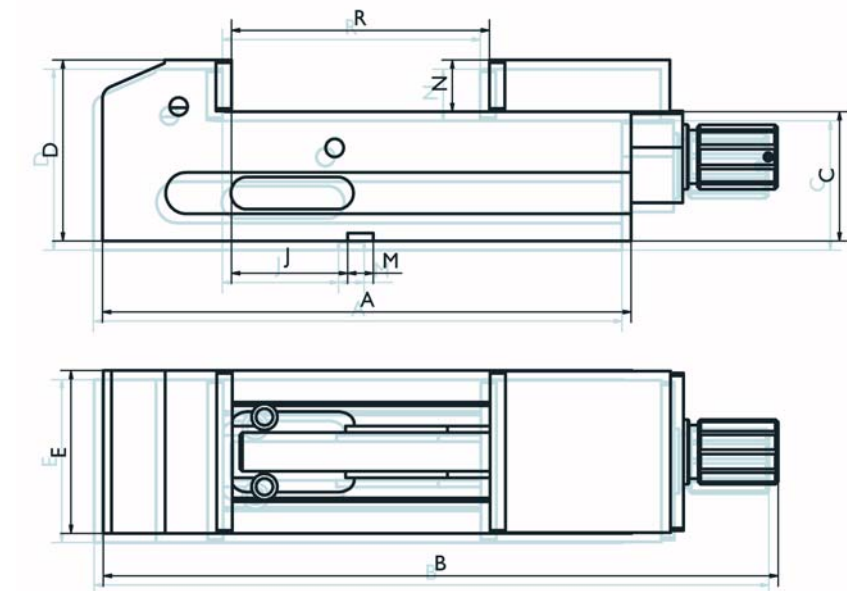


The ARNOLD COMPACT has a descending clamp system to avoid that the clamped work-piece lifts up. This is a semi-sphere installed between the moveable jaw and the spindle shoe.

When the clamping force is carried out by the spindle, this pressure is divided in two directions, one of which pulls down on the work-piece.

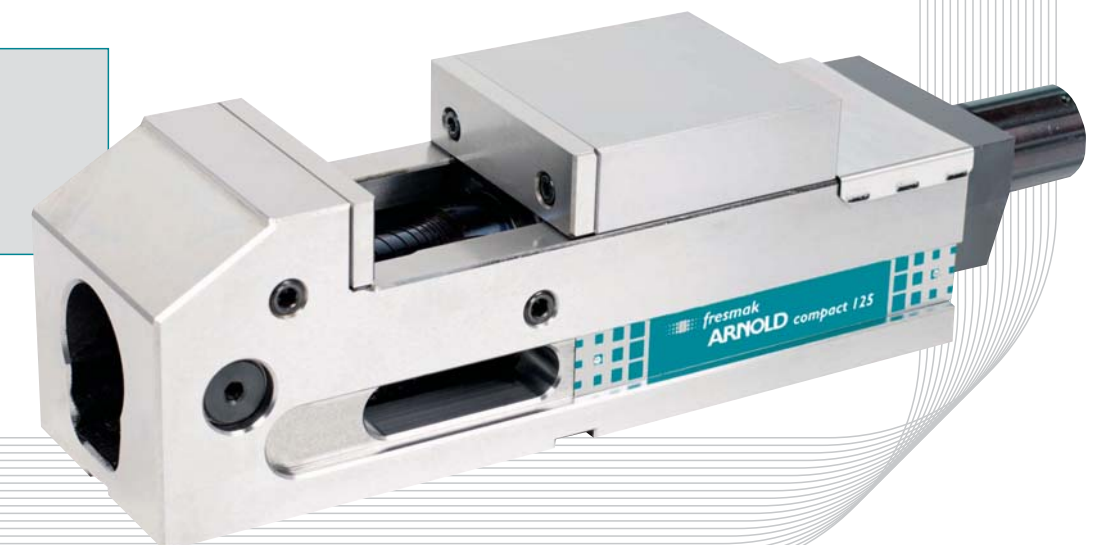
- This high pressure mechanical spindle does not require any maintenance, as long as the optimal coolant liquids are used.
- Ideal for large clamping and long clamping operations.
- The base has longitudinal and transversal keyways (20H7), to ensure the correct alignment of the table and the machine.

Size	090	125	160
Arnold Compact Mechanical	030 120 090	030 120 125	030 120 160
Arnold Compact Mechanical with regulator		030 130 125	030 130 160
Clamping force (kg)	2.500	4.000	5.000
A	300	400	570
B Mechanical	387	524	679
B Mechanical with regulator		551	704
C-0,02	75	100	110
D	115	140	160
E	91	126	161
J	40	90	115
M H7	20	20	20
N	40	40	50
R	0 - 130	0 - 200	0-314
Weight (kg)	16	35	70



### Set supplied

- base body
- mechanical spindle
- 1 set of plain jaws
- 1 handle
- 4 end clamps
- instruction manual

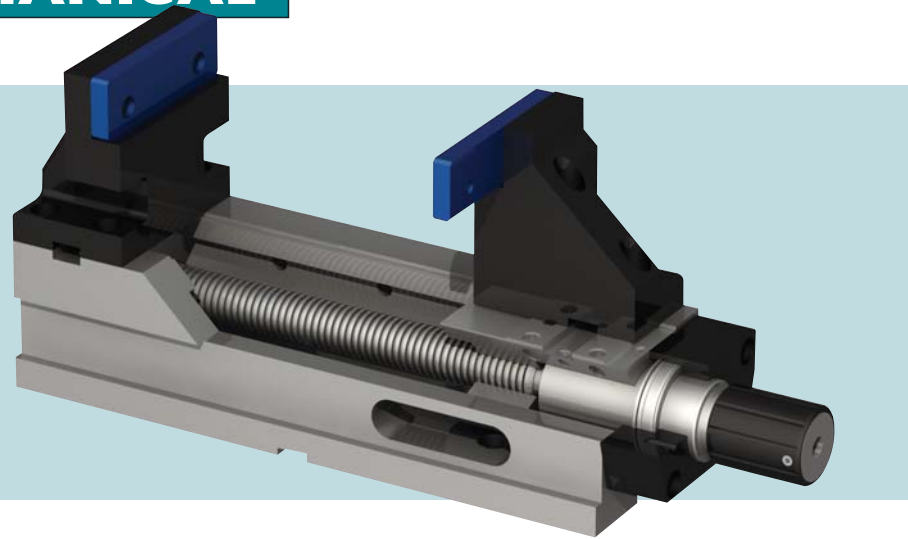




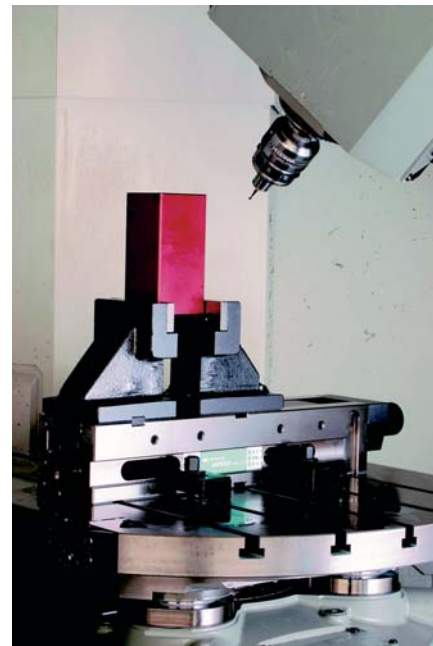
# HIGH PRESSURE MANUAL vices for

## Arnold 5X MECHANICAL

High Pressure ARNOLD 5X, are fitted with a clamp as far away as possible from the body and therefore the machine bench. In addition they maintain their constant length irrespective of the size of the work-piece, being specially ideal for the use in 5-axis machining centres.



- Main components in nodular cast iron.
- 0.01 mm clamping repeatability.
- Designed in two sizes with adjustable force of up to 3 tons.
- Fitted with a high pressure mechanical intensifier.
- To obtain high pressure, exterior elements, which make this type of work difficult, are not required with this model.
- This high pressure mechanical spindle does not require any maintenance, as long as the optimal coolant liquids are used.
- Optional: power regulator.
- Fundamental for highly specialised machining such as titanium and aluminium, which requires totally different clamping forces.
- Permanent clamping force avoids repositioning the work-piece one day to the next.
- This advantage makes it ideal for long term machining, habitual in 5X centres.



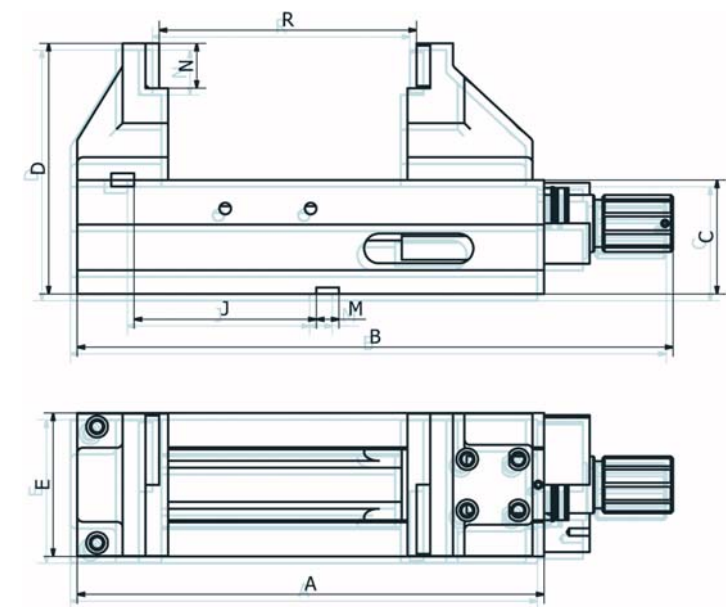
- Side windows for easy swarf evacuation.
- ARNOLD 5X vice jaws include a step which enables other types of jaws to be fitted in order to improve the support or even to reduce it.



- Can be clamped to the table either by the four standard clamps supplied or by using four screws in the inside of the body.
- Stepped jaws can be supplied for references 050 121 125 or 050 131 125 when ordered.

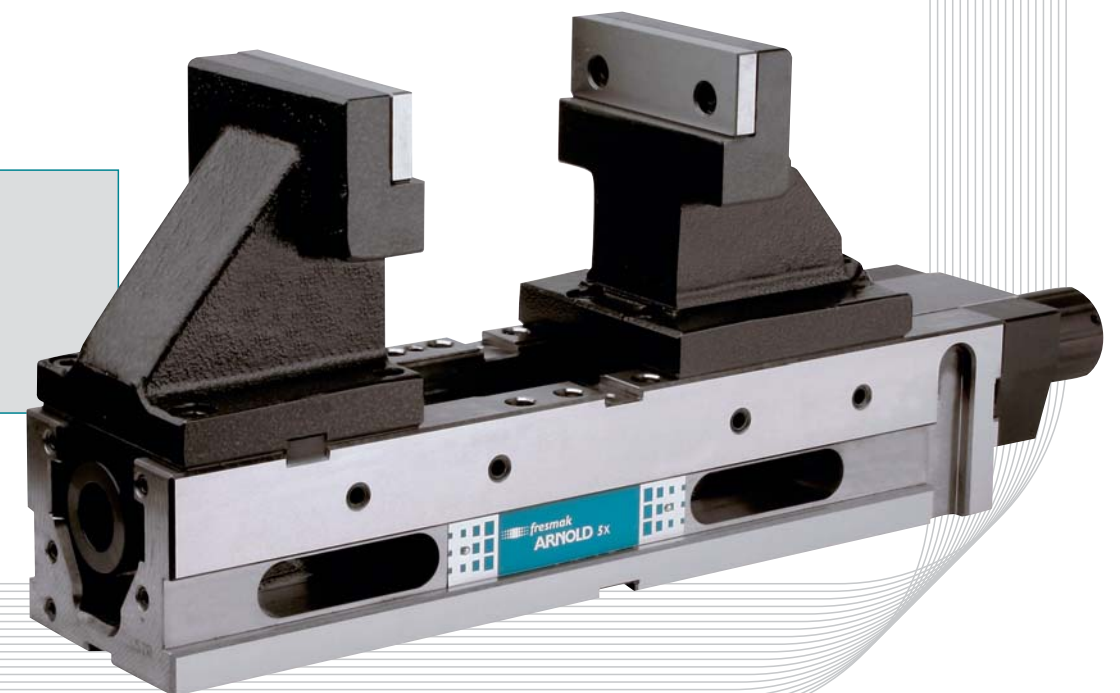
# 5-axis machining centres

Size	125 M	125 L
Arnold 5X	050 121 125	
Arnold 5X with regulator	050 131 125	050 130 125
Clamping force (kg)	3.000	3.000
A	410	480
B	524	589
B with regulator	551	621
C - 0.02	100	100
D	220	250
E	126	126
J + 0,02	140 + 0.02	152
M H7	20	20
N	40	40
Weight (kg)	44	49
Clamping field	18 - 228	38 - 240



### Set supplied

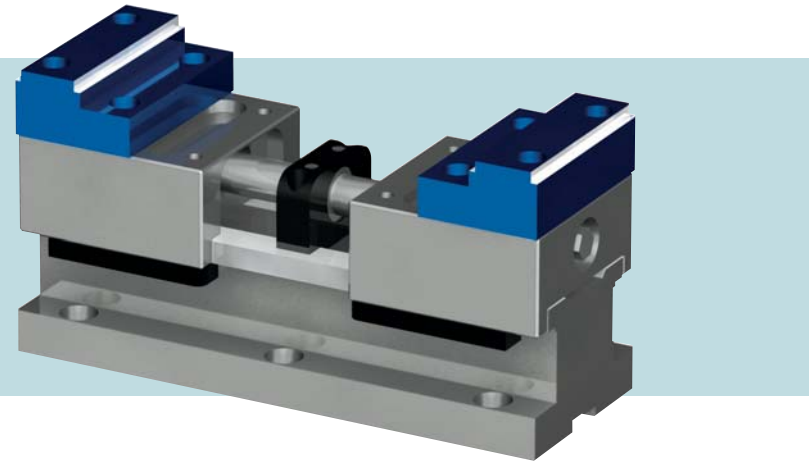
- base body
- mechanical spindle
- 1 set of high jaws
- 1 set of plain jaws
- 1 handle
- 4 end clamps
- instruction manual



# MANUAL vices for 5-axis machining centres

## Arnold SELF-CENTRING SC

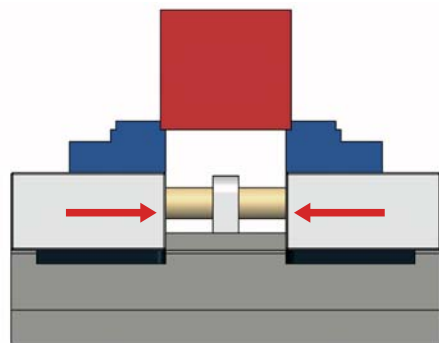
ARNOLD SC High Precision vices are compact, high and self-centring and maintain constant length, which makes them specially valid for working in 5 - axis machining centres.



- Self-centring high precision vices.
- 0.01 mm clamping repeatability.
- 0.02/0.03 mm accuracy on centring.
- Designed to work on machining centres with small tables and in 5-axis controlled centres.
- Compact design with exterior guides that avoids deformation as the clamping force is distributed throughout the width.
- Clamping force from 2 to 4 tons, in accordance with the clamping torque applied.
- Threaded right-left spindle, which can be operated with standard key.

### These vices have a clamp casing system

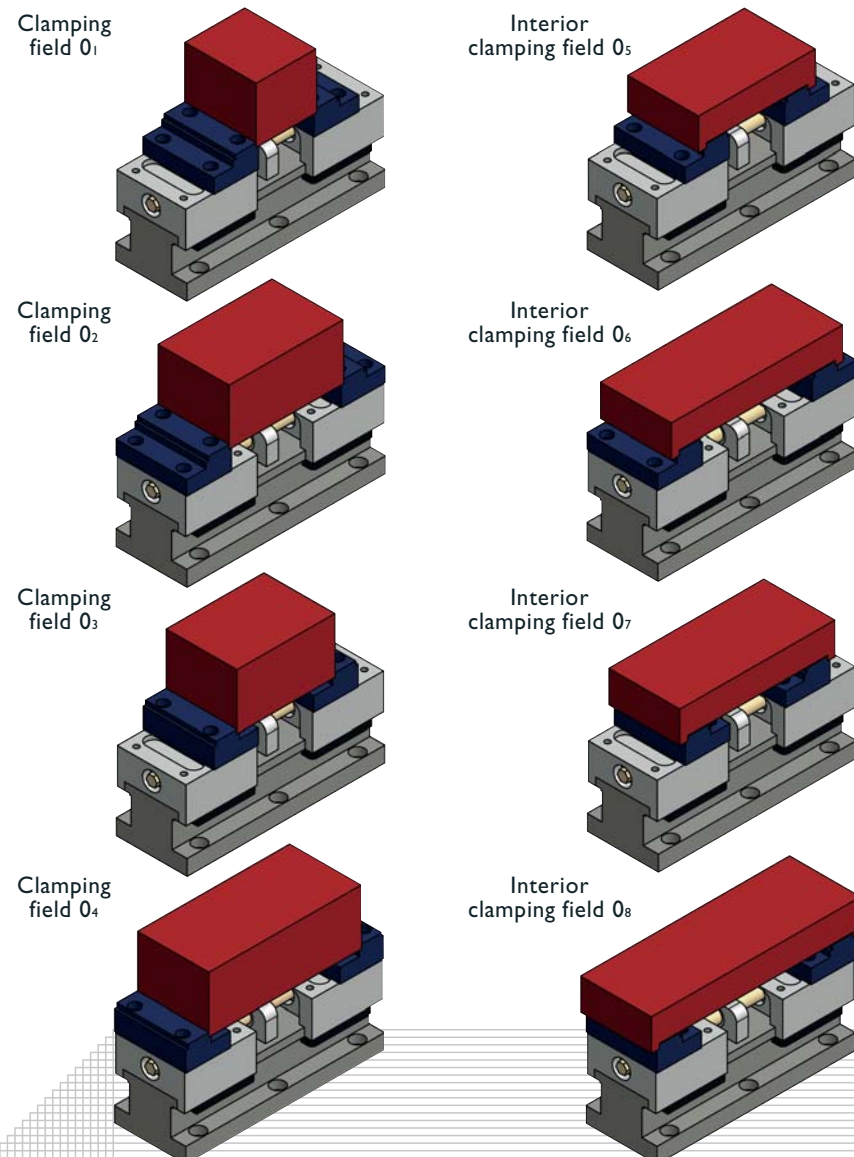
- The force is applied as near as possible to the piece to be machined. This means that the torque power is used to the full.



Interchangeable jaws can reach a height of 125 mm, this means they can overcome the biggest obstacle for this type of work; avoiding collisions with the machine turrets or the rotation of the table.

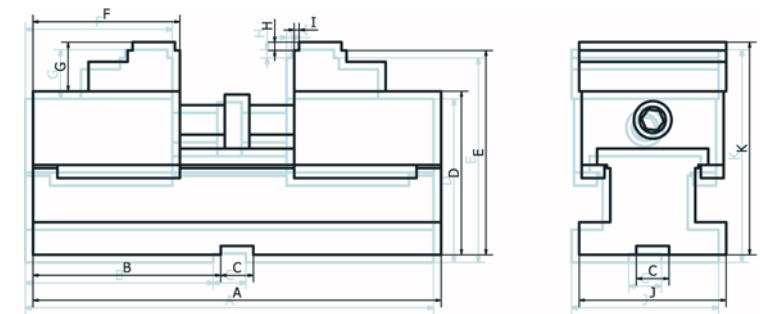
### Clamping possibilities

Possibility of positioning the jaws in two locations. Possibility of positioning the jaws in two positions rotating them on their axis.



Size	090	125
Arnold SC	050 200 090	050 200 125
A	250	350
B	115	165
C	20H7	20H7
D	100	103
E	125	125
F	93	128
G	30	30
H	5	5
I	3	5
J	6	7
K	90	125
Weight (kg)	14,3 kg	30 kg
Clamping field 0 <sub>1</sub>	12 - 76	14 - 108
Clamping field 0 <sub>2</sub>	80 - 144	110 - 204
Clamping field 0 <sub>3</sub>	60 - 124	84 - 178
Clamping field 0 <sub>4</sub>	128 - 192	180 - 264
Clamping field 0 <sub>5</sub>	64 - 128	82 - 176
Clamping field 0 <sub>6</sub>	132 - 196	178 - 272
Clamping field 0 <sub>7</sub>	112 - 176	152 - 246
Clamping field 0 <sub>8</sub>	180 - 244	248 - 342

The clamping force depends on the torque applied to the handle.

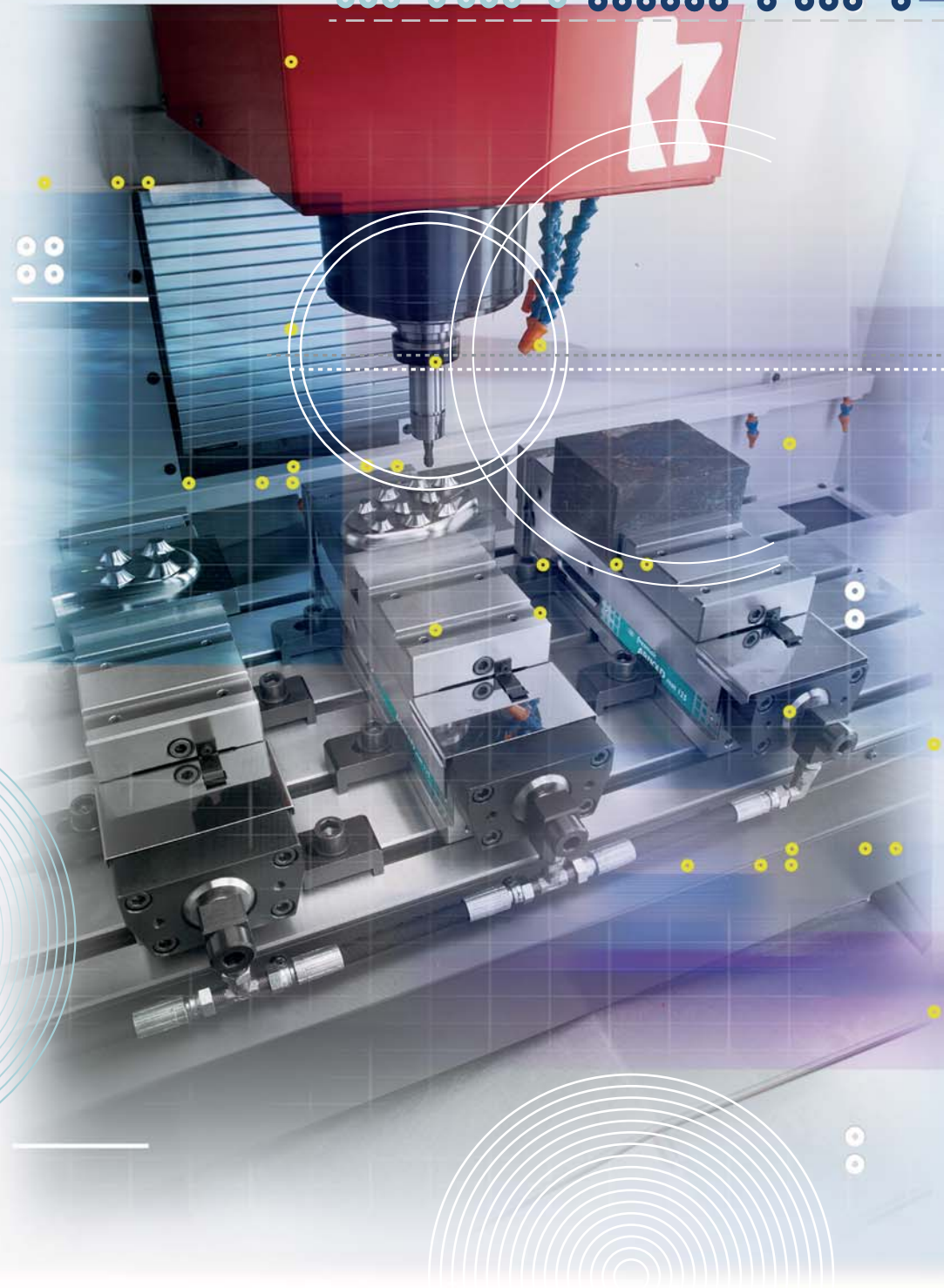


### Set supplied

- base body
- mechanical spindle without high pressure
- 1 set of jaws
- 1 set of plain jaws
- 1 socket wrench
- 4 end clamps
- instruction manual



# Automatic Vices HIGH PRESSURE



automatic vices high pressure

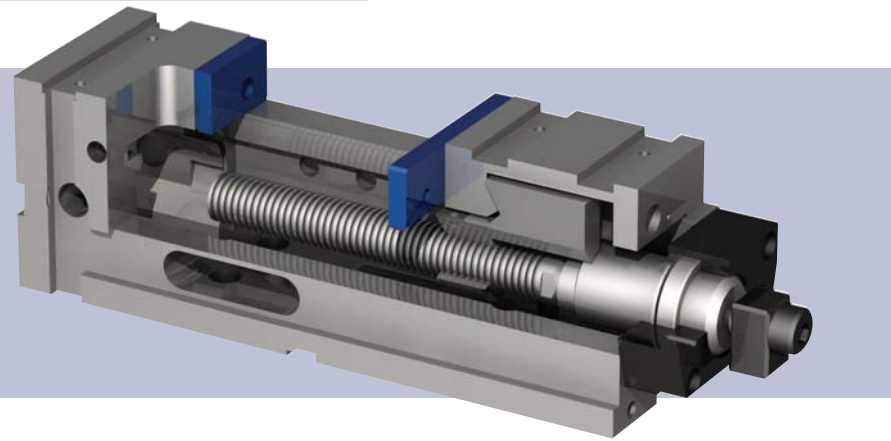


# HIGH PRESSURE AUTOMATIC vices for

all types of machines

## Arnold Mat OLEO-DYNAMIC

High Pressure OLEO-DYNAMIC  
ARNOLD MAT vices, maintain  
their length irrespective of the size  
of the work-pieces, being specially  
ideal for use in machining centres.

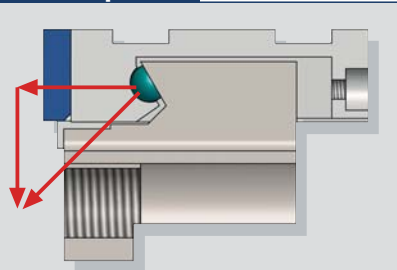


- Possible working positions: supported on the base, on the side or vertically on the head.
- Suitable for working in horizontal and vertical machining centres.
- All surfaces ground to 0.02 mm.
- 0.01 mm clamping repeatability.
- Monoblock design prevents deformations due to high pressure and offers great rigidity.
- Fitted with a high pressure single acting oleo-dynamic intensifier.
- Adjustable clamping force and directly proportional to the oil pressure input (see manual).
- Maximum pressure with input pressure of 500 bar.
- Clamping force is 2.5/4/5 tons according to size.
- Rotary connection at the inlet and the outlet of the oil.
- Side windows to enable the interior cleaning of the vices.

- There are two clamping possibilities, either towards the fixed head or the opposite direction. Should clamping towards the interior be needed, just place the spindle on the rear part of the fixed head, clamped by four screws. Then rotate the spindle shoe and the moveable jaw.

- As these vices are operated by an external hydraulic unit, they perform better than other models when it comes to clamping large work-pieces between several vices in parallel.
- Capable of correcting buckling defects on large work-pieces, avoiding vibrations on the corners

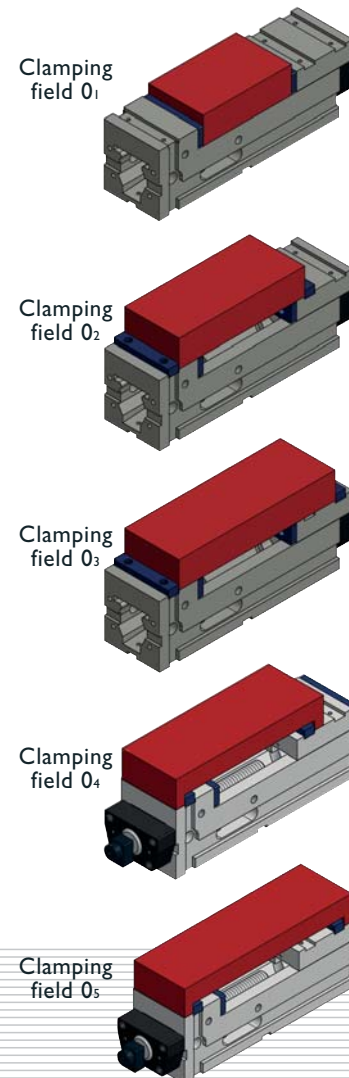
### Semi-sphere



The ARNOLD MAT has a descending clamp system to avoid that the clamped part lifts up. This is a semi-sphere installed between the moveable jaw and the spindle shoe.

When the clamping force is carried out by the spindle, this pressure is divided in two directions, one of which pulls down on the work-piece.

### Clamping possibilities



### FUNCTIONING

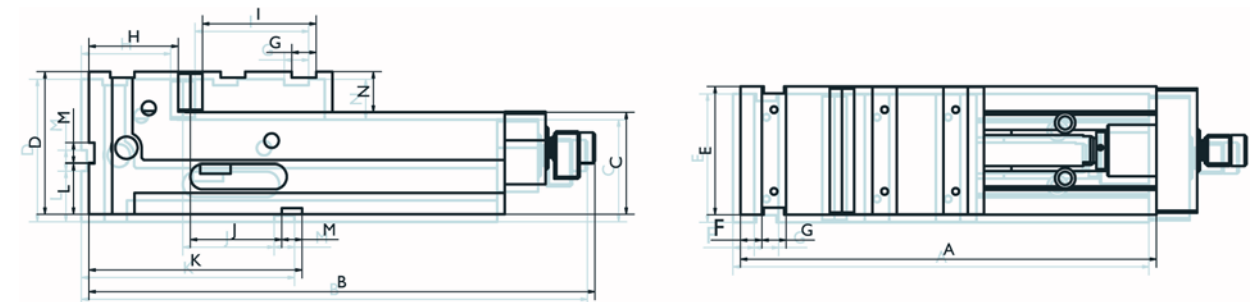
Manually fit the moveable jaw at about 4 mm from the first piece of the series, and from there onto the automatic mode. This characteristic makes it specially ideal for machining large series of work-pieces.



### Elements needed for the operation not supplied with the vice

- Hydraulic unit or single effect 500 bar pneumo-hydraulic pump.
- Vice unit connection hose.
- Pressure control switch.
- Gauge.
- Safety valve integrated into the unit
- ON – OFF switch.

Size	090	125	160	200
<b>Arnold Mat Oleo-Dynamic</b>	<b>020 140 090</b>	<b>020 140 125</b>	<b>020 140 160</b>	<b>020 140 200</b>
Clamping force	2.500	4.000	5.000	5.000
A	300	410	570	570
B	384	499	654	654
C - 0,02	75	100	110	110
D	115	140	160	173
E	91	126	161	201
F	21	21	21	21
G	20	24	24	24
H	58	88	99	99
I	55	112	112	112
J + 0,02	40	90	115	111
K	130	210	250	250
L	40	50	60	60
M H7	20	20	20	20
N	40	40	50	63
Weight (kg)	16	35	70	93
<b>Clampings</b>	<b>090</b>	<b>125</b>	<b>160</b>	<b>200</b>
Clamping field 0 <sub>1</sub>	0 - 130	0 - 200	0 - 314	0 - 304
Clamping field 0 <sub>2</sub>	76 - 207	80 - 285	106 - 420	114 - 418
Clamping field 0 <sub>3</sub>		150 - 355	174 - 488	182 - 486
Clamping field 0 <sub>4</sub>	113-170	119 - 191	133 - 334	140 - 344
Clamping field 0 <sub>5</sub>		189 - 261	201 - 402	208 - 405



### Set supplied

- base body
- oleo-dynamic spindle
- rotary connection
- 1 set of plain jaws
- 1 handle
- 4 end clamps
- instruction manual

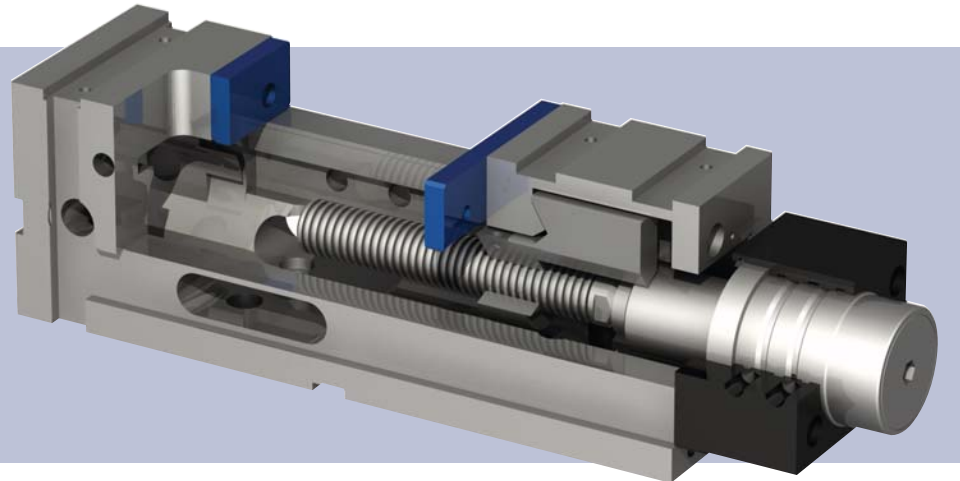


# HIGH PRESSURE AUTOMATIC vices for

all types of machines

## Arnold Mat AUTOMAT

High Pressure ARNOLD MAT AUTOMAT vices can obtain clamping force of up to 5 ton, with a 4 mm automatic movement maintaining their length constant irrespective of the size of the work-pieces, being specially ideal for use in machining centres.

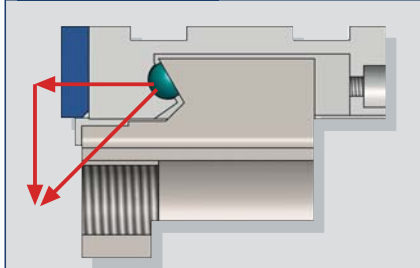


- Possible working positions: supported on the base, on the side or vertically on the head.
- Suitable for working in horizontal and vertical machining centres.
- All surfaces ground with a parallelism and perpendicularity of 0.02 mm.
- 0.01 mm clamping repeatability.
- Monoblock design avoids deformations due to high pressure and offers great rigidity.
- Fitted with a high pressure double effect oleo-dynamic intensifier.
- Clamping force is 4/5 tons according to size.
- Adjustable clamping force and directly proportional to the input oil pressure (see manual). An external hydraulic unit is not required, direct connection for hydraulic clamping in machining centres.
- Automatic 4 mm opening and closing movement.
- Ideal for machining large series of pieces.
- Side windows to enable the interior cleaning of the vices.

- There are two clamping possibilities, either towards the fixed head or the opposite direction. Should clamping towards the interior be needed, just place the spindle on the rear part of the fixed head, clamped by four screws. Then rotate the spindle shoe and the moveable jaw.

- This high pressure vice needs a 70 bar exterior oil supply, to obtain maximum clamping force.
- Most machining centres can supply a hydraulic supply system for tools with sufficient oil pressure to supply this vice.

### Semi-sphere



The ARNOLD MAT has a descending clamp system to avoid that the clamped part lifts up. This is a semi-sphere installed between the moveable jaw and the spindle shoe.

When the clamping force is carried out by the spindle, this pressure is divided in two directions, one of which pulls down on the work-piece.

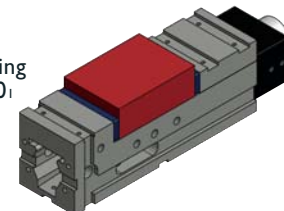
### Elements needed for the operation not supplied with the vice

- Hydraulic unit or double effect 100 bar pneumo-hydraulic pump.
- Vice unit connection hose.
- Pressure control switch.
- Gauge.
- Safety valve integrated into the unit.
- ON – OFF switch.

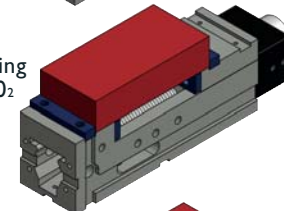


### Clamping possibilities

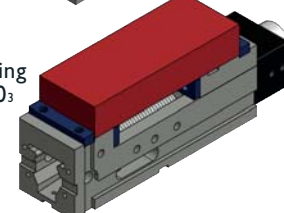
Clamping field 0<sub>1</sub>



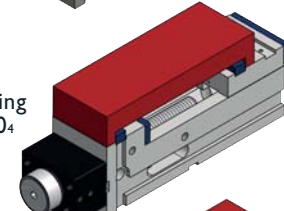
Clamping field 0<sub>2</sub>



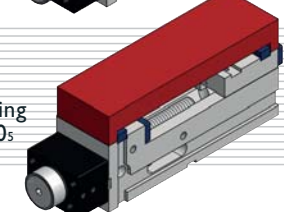
Clamping field 0<sub>3</sub>



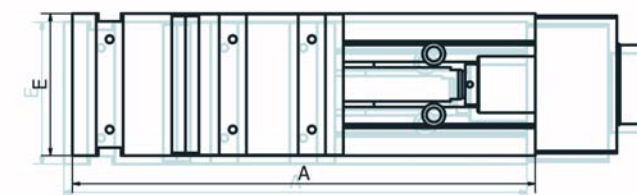
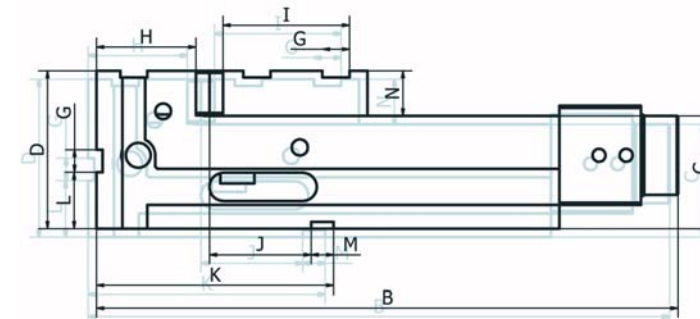
Clamping field 0<sub>4</sub>



Clamping field 0<sub>5</sub>



Size	125	160	200
<b>Arnold Mat Automat</b>	<b>070 200 125</b>	<b>070 200 160</b>	<b>070 200 200</b>
Clamping force (kg)	4.000	5.000	5.000
A	410	570	570
B	515	675	675
C - 0.02	100	110	110
D	140	160	173
E	126	161	201
F	21	21	21
G	24	24	24
H	88	99	99
I	112	112	112
J + 0.02	90	115	111
K	210	250	250
L	50	60	60
M H7	20	20	20
N	40	50	63
Peso (kg)	35	70	93
<b>Clampings</b>	<b>125</b>	<b>160</b>	<b>200</b>
Clamping field 0 <sub>1</sub>	0-170	0-285	0-267
Clamping field 0 <sub>2</sub>	80-255	106-391	114-381
Clamping field 0 <sub>3</sub>	150-325	174-459	182-449
Clamping field 0 <sub>4</sub>	119-191	133-334	140-344
Clamping field 0 <sub>5</sub>	189-261	201-402	208-405



### Set supplied

- base body
- automat spindle
- 1 set of plain jaws
- 1 handle
- 4 end clamps
- instruction manual

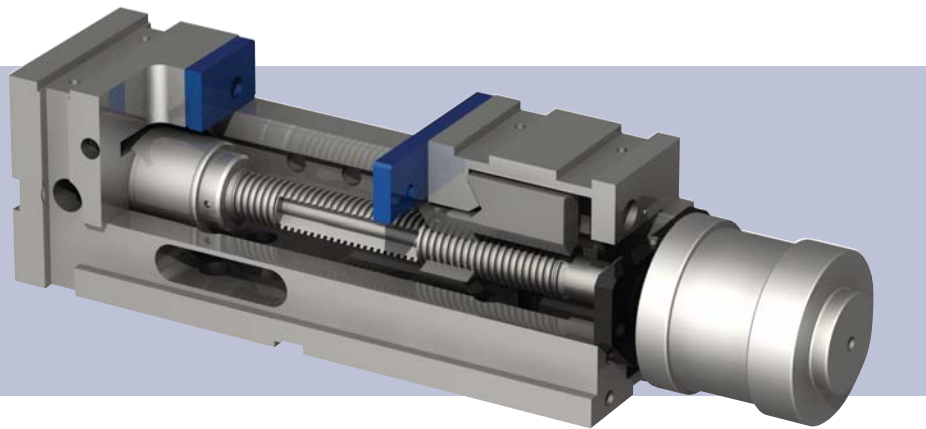


# HIGH PRESSURE AUTOMATIC vices for

all types of machines

## Arnold Mat PNEUMO-HYDRAULIC

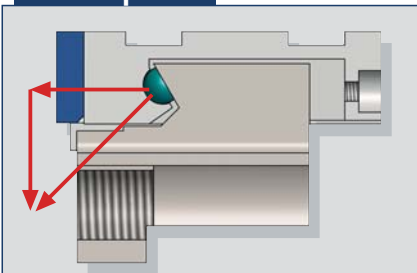
High Pressure ARNOLD MAT PNEUMO-HYDRAULIC vices, maintain their length irrespective of the size of the work-pieces, being specially ideal for the use in machining centres.



- Possible working positions: supported on the base or on the side.
- Suitable for working in horizontal and vertical machining centres.
- All surfaces ground with a parallelism and perpendicularity of 0.02 mm.
- 0.01mm clamping repeatability.
- Monoblock design avoids deformations due to high pressure and offers great rigidity.
- Side windows to enable the interior cleaning of the vices.
- Fitted with a high pressure single action Pneumo-hydraulic intensifier, using compressed air at 6 bars.
- Entry air pressure regulates the clamping force. (see manual).
- The air must be filtered (dry air).
- Clamping force is 2.5/4/5 tons according to size.
- Automatically opens and closes 4 mm.
- This characteristic makes it specially ideal for machining large series of work-pieces.

- Supplied with a manual valve set.
- Can be worked with a pedal (supplied to order)

### Semi-sphere



The ARNOLD MAT has a descending clamp system to avoid that the clamped part lifts up. This is a semi-sphere installed between the moveable jaw and the spindle shoe.

When the clamping force is carried out by the spindle, this pressure is divided in two directions, one of which pulls down on the work-piece.

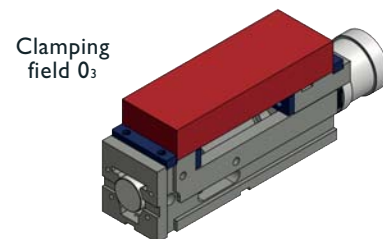
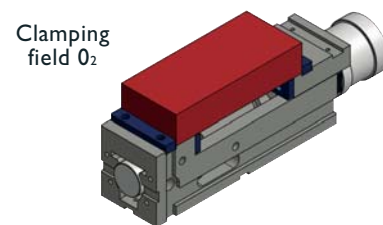
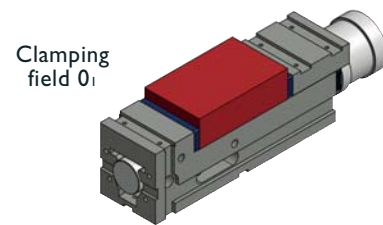
### Elements needed for the operation not supplied with the vice

- Connection of the compressor to the vice
- Filter unit, gauge and lubricator of the air inlet.
- **Note:** If using a control pedal: The set of valves supplied with the vice must be placed between the compressor and the pedal, not between the pedal and the vice.

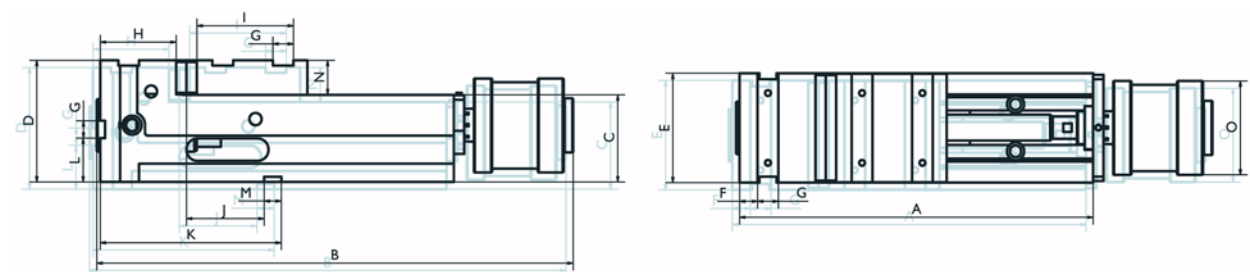


- These vices have a clamp casing system.
- The spindle does not push the moveable jaw from the end clamp, but it pulls it from the head.
- This effect means that the head of the vice and the work-piece suffer less deformation stress with high pressure.

### Clamping possibilities



Size	090	125	160	200
<b>Arnold Mat Pneumo-Hydraulic</b>	<b>020 600 090</b>	<b>020 600 125</b>	<b>020 600 160</b>	<b>020 600 200</b>
Clamping force (kg)	2.500	4.000	5.000	5.000
A	300	410	570	570
B	446	552	719	719
C - 0,02	75	100	110	110
D	115	140	160	173
E	91	126	161	201
F	21	21	21	21
G	20	24	24	24
H	58	88	99	99
I	55	112	112	112
J + 0,02	40	90	115	111
K	130	210	250	250
L	40	50	60	60
M H7	20	20	20	20
N	40	40	50	63
O	87,5	108	114	114
Weight (kg)	16	35	70	93
<b>Clampings</b>	<b>090</b>	<b>125</b>	<b>160</b>	<b>200</b>
Clamping field 0 <sub>1</sub>	0 - 132	0 - 189	0 - 303	0 - 294
Clamping field 0 <sub>2</sub>	76 - 208	85 - 274	106 - 409	106 - 400
Clamping field 0 <sub>3</sub>		155 - 344	174 - 477	174 - 468



### Set supplied

- base body
- pneumo-hydraulic spindle
- anti return valve
- 1 set of plain jaws
- 4 end clamps
- instruction manual

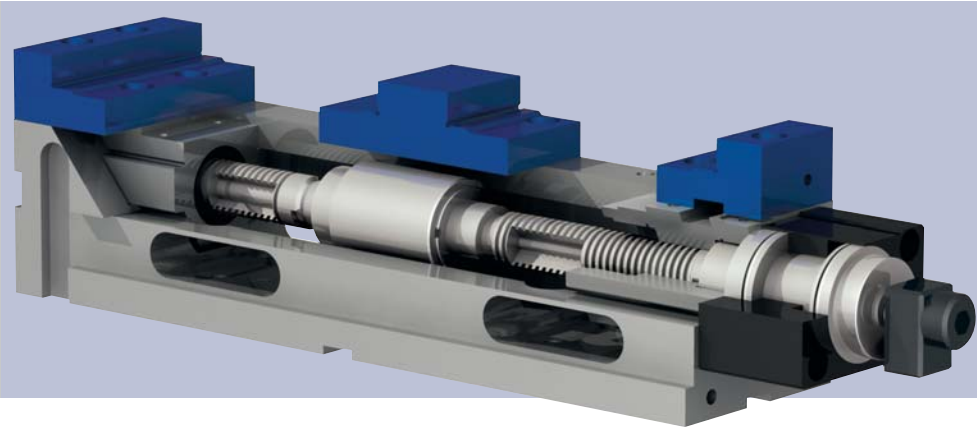


# HIGH PRESSURE AUTOMATIC vices for

## Arnold Twin OLEO-DYNAMIC

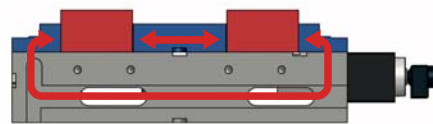
all types of machines

High Pressure OLEO-DYNAMIC ARNOLD TWIN vices can clamp two work-pieces at the same time automatically, using a single acting hydraulic system, maintaining the total length constant. This makes it ideal for machining series of work-pieces in machining centres.



- Main components in cast nodular peralite GGG70.
- All surfaces ground with a parallelism and perpendicularity of 0.02 mm.
- Possible working positions: supported on the base, on the side or vertically on the head.
- Suitable for working in horizontal and vertical machining centres.
- 0.01 mm clamping repeatability.
- Single action vices with spring push-back effect.
- It has a forward and backward movement of 3 mm.
- 2.5/4 tons force with hydraulic action (see manual).
- Operation with 500 bar hydraulic supply.
- High pressure spindle with rotary connection entry.
- Side windows for easy swarf evacuation.

- The exterior clamping pressure towards the centre provides a dynamically compensated clamp and avoids deformation.



- Designed to automate processes and robotise them.

### OPERATION

- Place the jaws at the distance required by the work-pieces so that they are clamped with a clearance of 3 mm.
- Then place the first work-pieces of the series and operate the hydraulic feeding system.
- This will first make the jaws move and then the high pressure is applied.
- To release the process, do the opposite.
- First release the high pressure and then the backward movement.

### Clamping possibilities

- Two work-pieces can be clamped at the same time, with a difference in size of 3 mm, or one single work-piece.
- The ARNOLD Twin vice permits six different clamping modes by interchanging the standard jaw position.
- This is achieved, either by rotating the side jaws and fitting the stepped jaw in the centre, or by fitting the central jaw on the side closest to the handle.

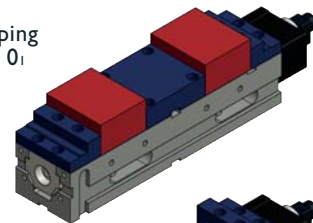


- Hard jaws suitable for fitting special Fresmak jaws.

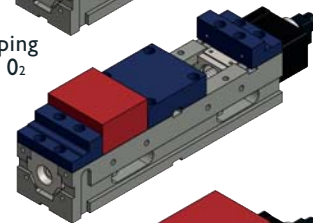


- Possibility of working with soft jaws in accordance with the geometrical requirements of the piece.
- Set of standardised soft jaws available.

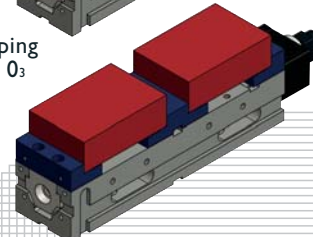
Clamping field 0<sub>1</sub>



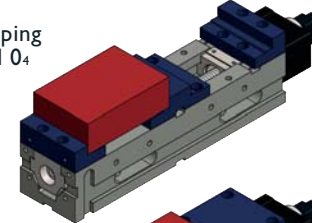
Clamping field 0<sub>2</sub>



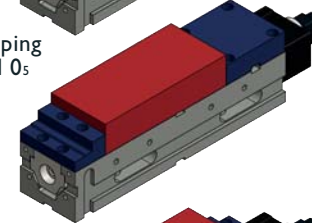
Clamping field 0<sub>3</sub>



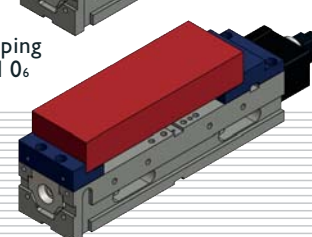
Clamping field 0<sub>4</sub>



Clamping field 0<sub>5</sub>



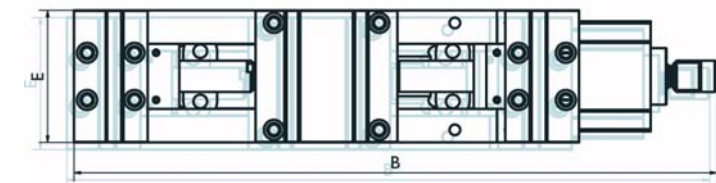
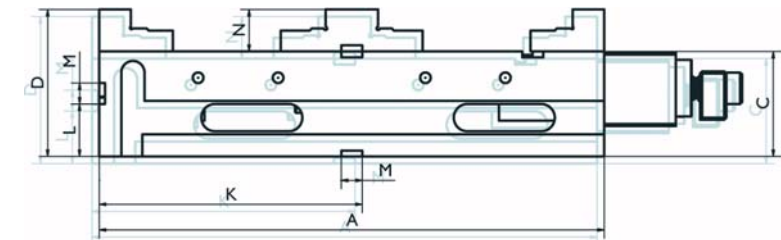
Clamping field 0<sub>6</sub>



Size	090	125
<b>Arnold Twin Oleo-Dynamic</b>	<b>040 140 090</b>	<b>040 140 125</b>
A	400	480
B	525	611
C	75	100
D	115	140
E	91	126
K	210	250
L	40	50
M H7	20	20
N	40	40
Clamping force (kg)	2.500 x 2	4.000 x 2
Weight (kg)	25	45
<b>Clamping field</b>	<b>090</b>	<b>125</b>
Clamping field 0 <sub>1</sub>	0 - 68	0 - 84
Clamping field 0 <sub>2</sub>	0 - 80	0 - 99
Clamping field 0 <sub>3</sub>	66 - 133	83 - 166
Clamping field 0 <sub>4</sub>	66 - 133	83 - 166
Clamping field 0 <sub>5</sub>	140 - 209	180 - 271
Clamping field 0 <sub>6</sub>	198 - 274	262 - 353

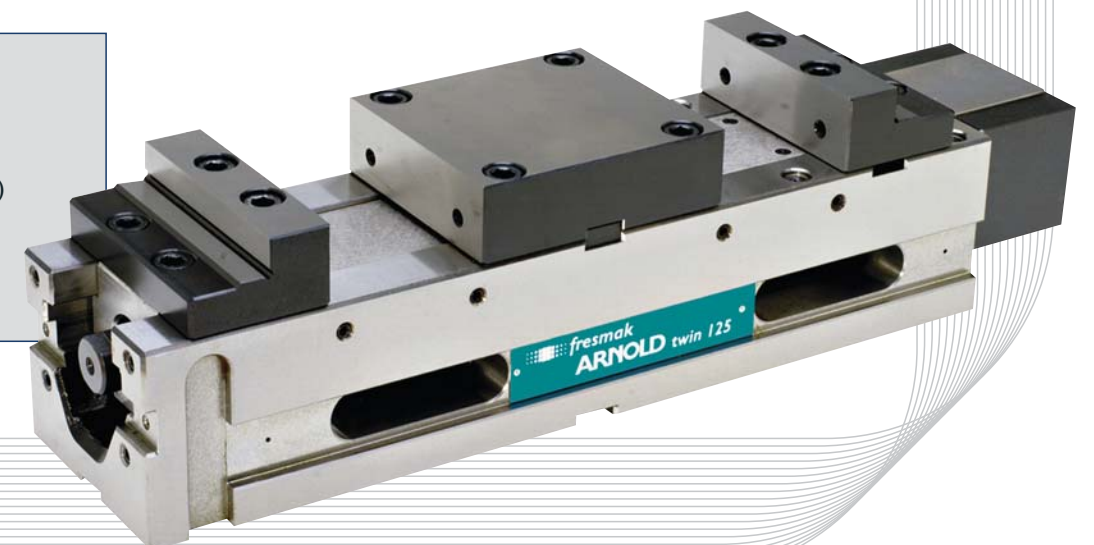
### Elements needed for the operation not supplied with the vice

- Hydraulic unit or single effect 500 bar pneumo-hydraulic pump.
- Vice unit connection hose.
- Pressure control switch
- Gauge.
- Safety valve integrated into the unit
- ON – OFF switch.



### Set supplied

- base body
- oleo-dynamic spindle
- 1 set of jaws
  - 2 x side jaws
  - 1 central jaw I (staggered)
  - 1 central jaw II (block)
- 1 handle
- 4 end clamps
- instruction manual



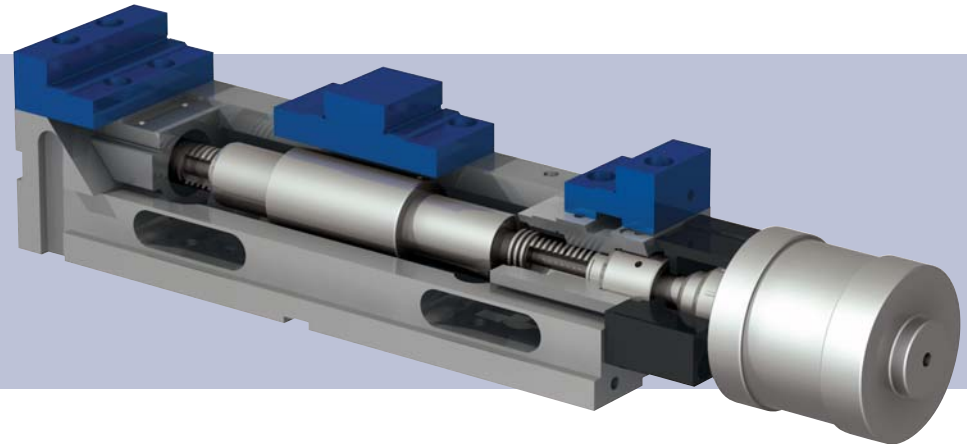


# HIGH PRESSURE AUTOMATIC vices for

## Arnold Twin PNEUMO-HYDRAULIC

all types of machines

ARNOLD TWIN PNEUMO-HYDRAULIC High Pressure vices are capable of clamping two work-pieces simultaneously with one single movement of the handle, keeping the total length constant. Making them ideal for machining series of work-pieces in machining centres.



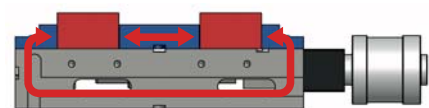
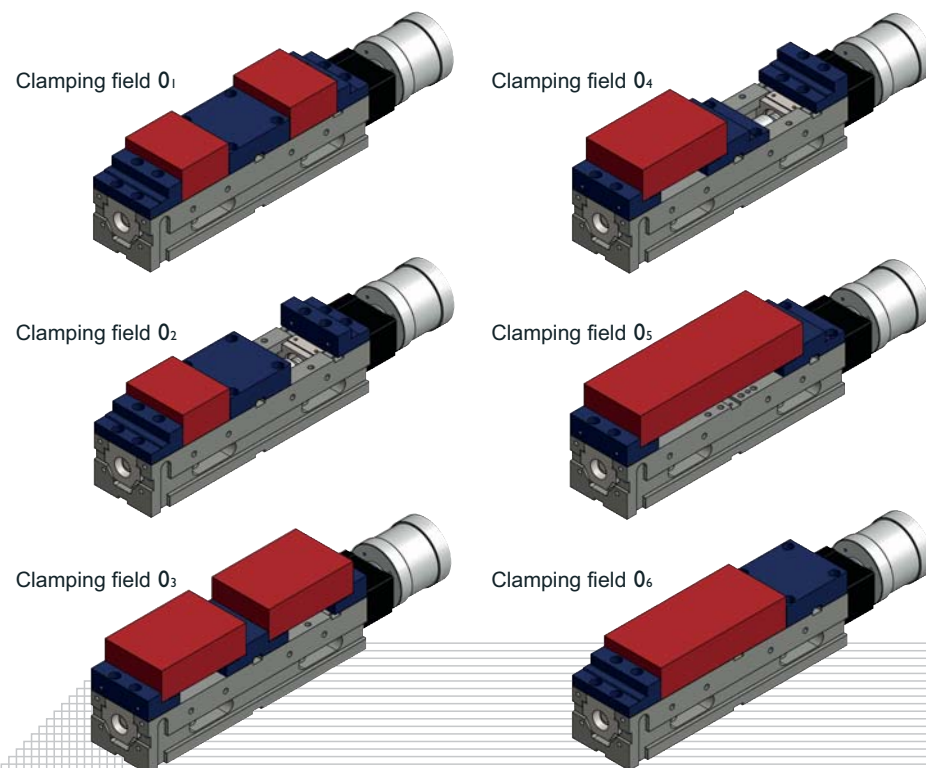
- Main components in cast nodular peralite GGG70.
- All surfaces ground with a parallelism and perpendicularity of 0.02 mm.
- Possible working positions: supported on the base or on the side.
- Suitable for working in horizontal and vertical machining centres.
- 0.01 mm clamping repeatability.
- Pneumo-hydraulic high pressure single acting intensifier, supplied by compressed air at 6 bars.
- 4 ton clamping force and directly adjustable with the air pressure (see manual). The air must be filtered (dry air).
- Automatically closes and opens 4 mm.
- The vice handle can be manual, used with a valve unit sent with the vice or using a pedal situated near the machine or can be sent by CNC using a solenoid valve.
- Side windows for easy swarf evacuation.
- Ideal for machining large series of work-pieces.



■ Set of standardised soft jaws available.

### Clamping possibilities

- Two work-pieces can be clamped at the same time, with a difference in size of 3 mm, or one single work-piece.
- The ARNOLD Twin vice permits six different clamping modes by interchanging the standard jaw position.
- This is achieved, either by rotating the side jaws and fitting the stepped jaw in the centre, or by fitting the central jaw on the side closest to the handle.

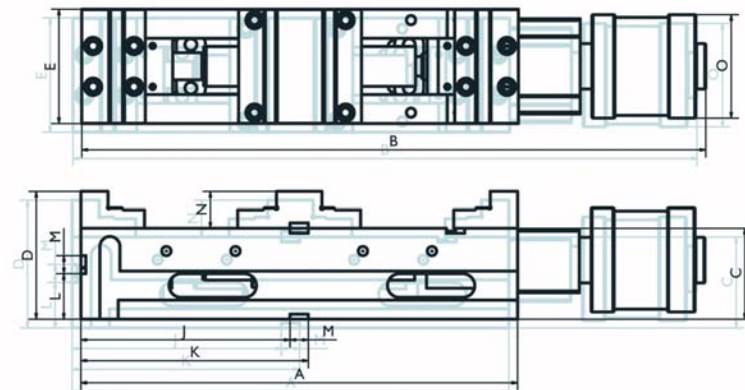


- The exterior clamping pressure towards the centre provides a dynamically compensated clamp and avoids deformation.
- Pedal available.

Size	125	
Arnold Twin Pneumo-Hydraulic	040 600 125	
Clamping force (kg)	4.000	
A	480	
B	689	
C - 0.02	100	
D	140	
E	126	
K	250	
L	50	
M H7	20	
N	40	
Weight (kg)	48	
Position	Outer keyslot	Inner keyslot
Clamping field 0 <sub>1</sub>	52-102	7-57
Clamping field 0 <sub>2</sub>	52-102	7-57
Clamping field 0 <sub>3</sub>	135-185	90-140
Clamping field 0 <sub>4</sub>	135-185	90-140
Clamping field 0 <sub>5</sub>	224-274	179-229
Clamping field 0 <sub>6</sub>	307-357	262-312

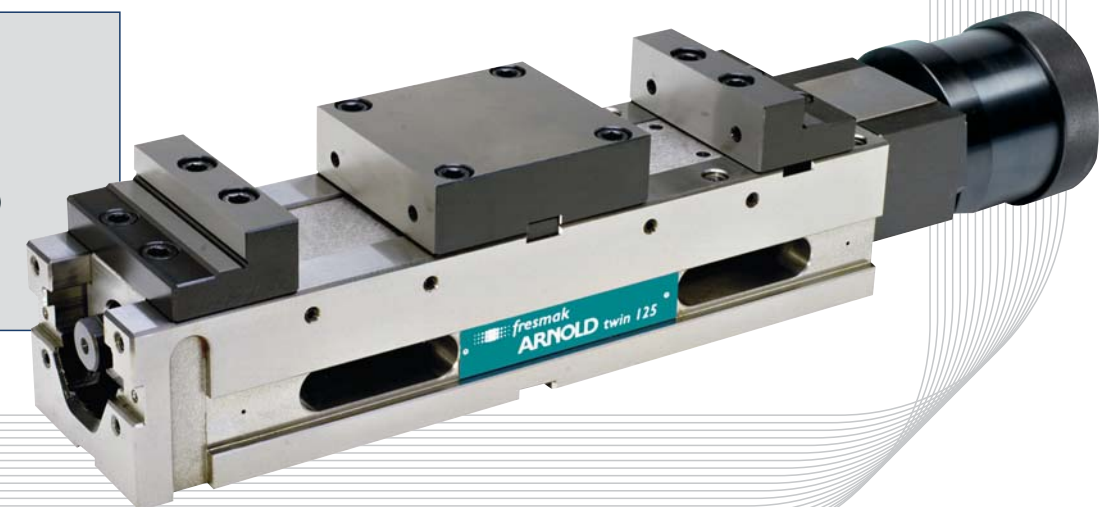
### Elements needed for the operation not supplied with the vice

- Connection pipe of the compressor to the vice
- Filter unit, gauge and lubricator of the air input.
- **Note:** If using a control pedal: the set of valves supplied with the vice must be placed between the compressor and the pedal, not between the pedal and the vice.



### Set supplied

- base body
- pneumo-hydraulic spindle
- anti-return valve
- 1 set of jaws
  - 2 x side jaws
  - 1 central jaw I (stepped)
  - 1 central jaw II (block)
- 4 end clamps
- instruction manual



# HIGH PRESSURE AUTOMATIC vices for

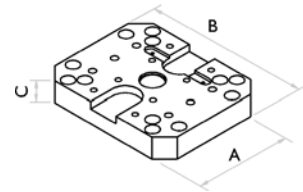
## Tombstones MAT

# all types of machines

## TWIN Cubes

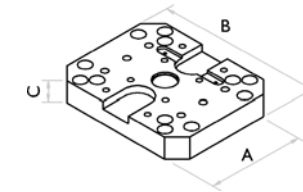
Size	090	125	160	200
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Duo Base Plate	890 010 090	890 010 125	890 010 160	890 010 200
A	236	234	300	320
B	236	290	360	440
C	45	45	45	45
Weight (kg)	16	17	20	43

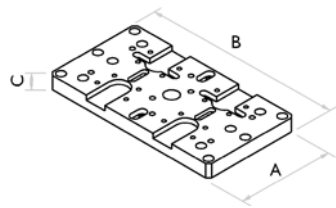


Size	090	125
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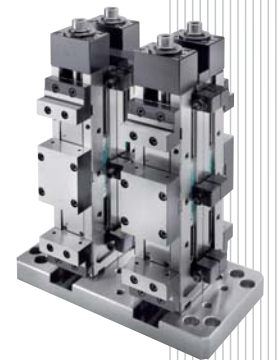
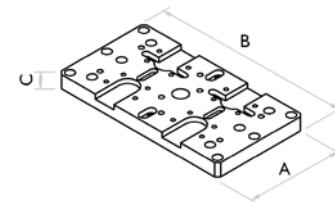
Duo Base Plate	890 014 090	890 014 125
A	236	234
B	236	290
C	45	45
Weight (kg)	16	17



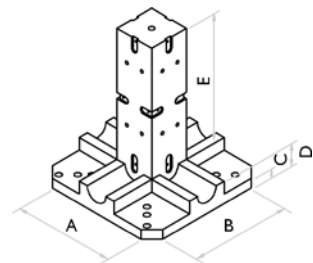
Double Duo Base Plate	890 020 090	890 020 125	890 020 160	890 020 200
A	220	290	310	336
B	410	540	556	620
C	42	42	42	42
Weight (kg)	29	54	58	62



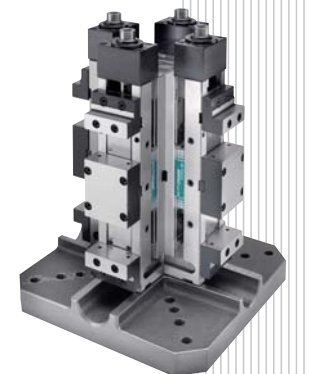
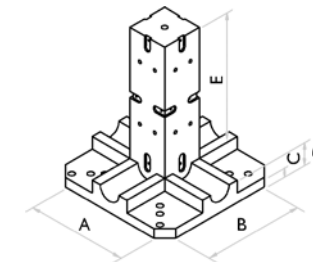
Double Duo Base Plate	890 024 090	890 024 125
A	220	290
B	410	540
C	42	42
Weight (kg)	29	54



Cube 4x90°	890 030 090	890 030 125	890 030 160	890 030 200
A	400	400	500	547
B	400	400	500	547
C	50	42	50	50
D	70	62	70	70
E	300	418	570	570
Weight (kg)	63	117	213	271



Cube 4x90°	890 034 090	890 034 125
A	400	400
B	400	400
C	50	50
D	70	62
E	400	488
Weight (kg)	63	117

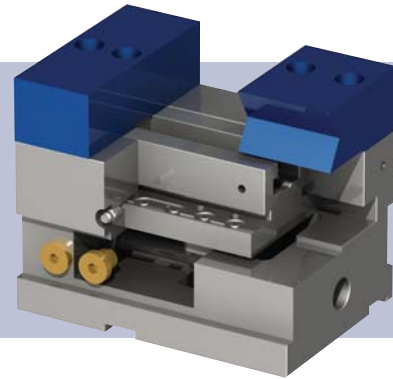


# HIGH PRESSURE AUTOMATIC vices for

vertical and horizontal machining centres

## Arnold IZI HYDRAULIC CLAMP

ARNOLD IZI HYDAULIC High Pressure vices, are compact automatic vices with extensive movement, specially designed for rapid clamp or robotised systems.

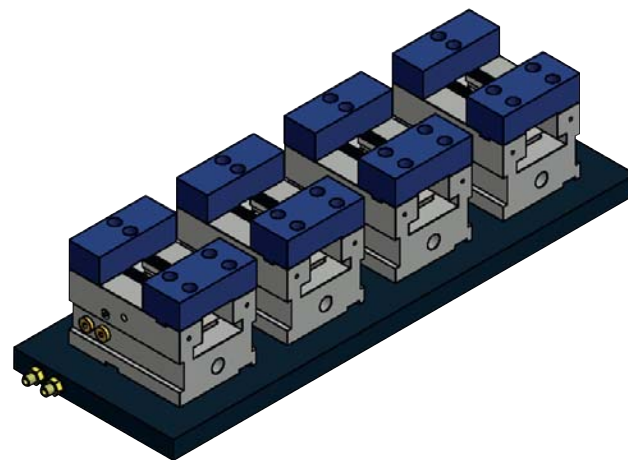


- Material: steel
- 0.01 mm clamping repeatability.
- All components are tempered and ground.
- Suitable for working in horizontal and vertical machining centres.
- Fixed jaw firmly clamped to the base body to maintain a secure reference.
- Moveable jaw guided by interior slides at the base of the vice to avoid upward movement of the work-piece.
- Totally hermetic.
- No cleaning operations needed.
- Fitted with a totally concealed double effect hydraulic cylinder.

- Adjustable clamping force directly proportional to the input oil pressure (see manual).
- For 250 bar pressure, the resulting force is 2 tons.
- Automatic 15 mm forward and backward movement.
- Reduced size in contrast to its clamping capacity.

### Clamping possibilities

- Various clamps on one single base plate available, with a single oil input. In this way, a monoblock is obtained which can clamp a large number of small work-pieces taking up very little space.
- Possibility of jaws adapted to the geometrical requirements of the work-piece.
- Made to measure jaws on request.

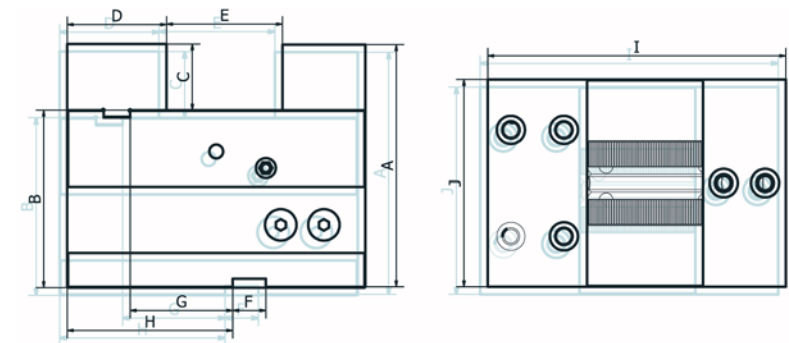


### Elements needed for the operation not supplied with the vice:

- Hydraulic unit or double effect 300 bar pneumo-hydraulic pump.
- Vice unit connection hose.
- Pressure control switch
- Gauge.
- Safety valve integrated into the unit
- ON – OFF switch.

### Set supplied

- base body
- hydraulic cylinder
- 1 set of jaws
- instruction manual



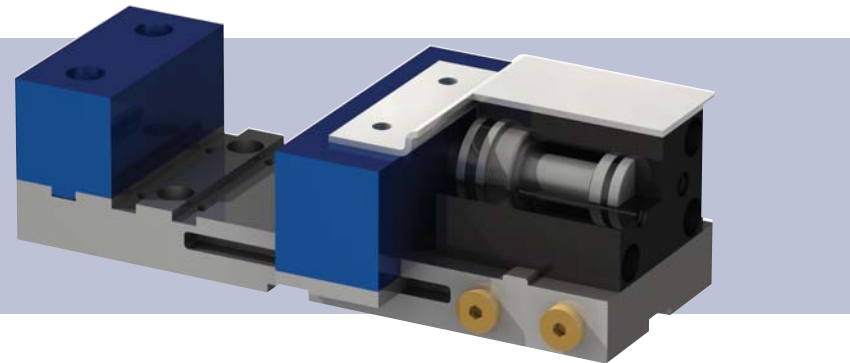
Size	125
Arnold IZI	090 600 125
Clamping force (kg)	1,75 Ton/250 bar
A	140
B	100
C	40
D	60
E	64
F	20 H7
G	62
H	100
I	180
J	125
Vice weight	18 kg
Clamping field	70 mm with automatic stroke of 15 mm

# HIGH PRESSURE AUTOMATIC vices for

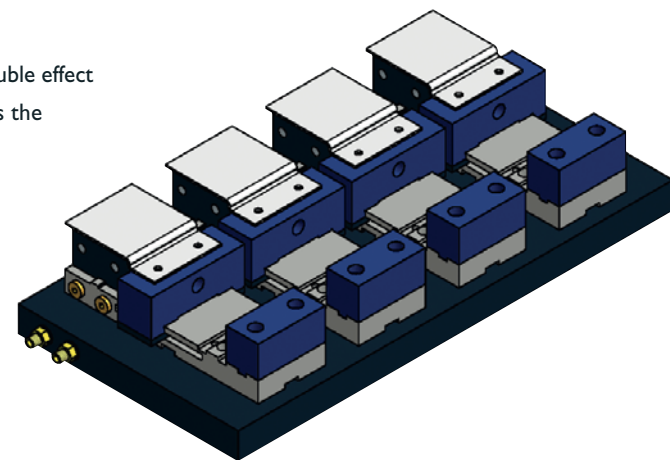
# vertical and horizontal machining centres

## Arnold IZ2 HYDRAULIC CLAMP

ARNOLD IZ2 HYDRAULIC CLAMP vices are compact automatic vices with extensive movement, specially designed for rapid clamp or robotised systems.

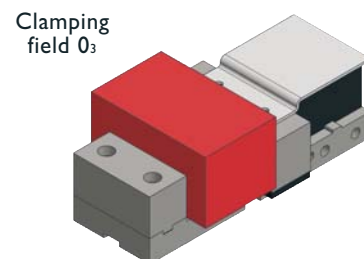
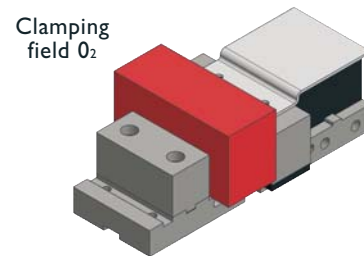
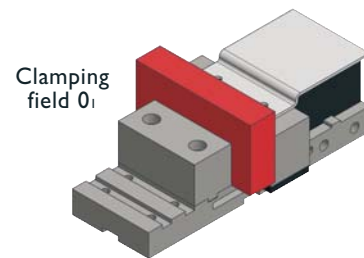


- Material: steel
- 0.01 mm clamping repeatability.
- All components are tempered and ground.
- Suitable for working in horizontal and vertical machining centres.
- Possibility of moving the fixed jaw to three different positions to clamp sets of different sized work-pieces.
- Moveable jaw guided by interior slides at the base of the vice to avoid that the clamp piece lifts.
- Greater precision thanks to the reduced height.
- Fitted with a totally concealed double effect hydraulic cylinder, which provides the clamping force.



- Adjustable clamping force directly proportional to the input oil pressure (see manual).
- For 250 bar pressure, the resulting force is 2 tons.
- Automatic forward and backward movement of 35 mm.
- Reduced size compared to its clamping capacity.
- Hardly any maintenance is required as they are open and clear for easy cleaning.

### Clamping possibilities

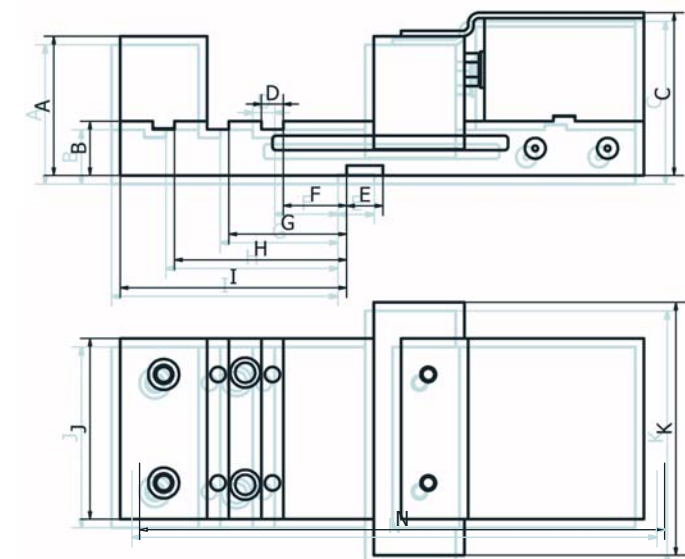


- Various vices on one single base plate available.
- Possibility of jaws adapted to the geometrical requirements of the work-piece.
- Made to measure jaws on request.

Size	125
Arnold IZ2	090 600 100
Clamping force (kg)	1,9 Ton/250 bar
A	77
B	30
C	90
D H7	14
E H7	20
F	26
G	60
H	94
I	125
J	100
K	140
L	100
M	140
N	289
Weight	14kg
Clamping field 0 <sub>1</sub>	0-24 automatic movement of 35 mm
Clamping field 0 <sub>2</sub>	22-58 automatic movement of 35 mm
Clamping field 0 <sub>3</sub>	56-92 automatic movement of 35 mm

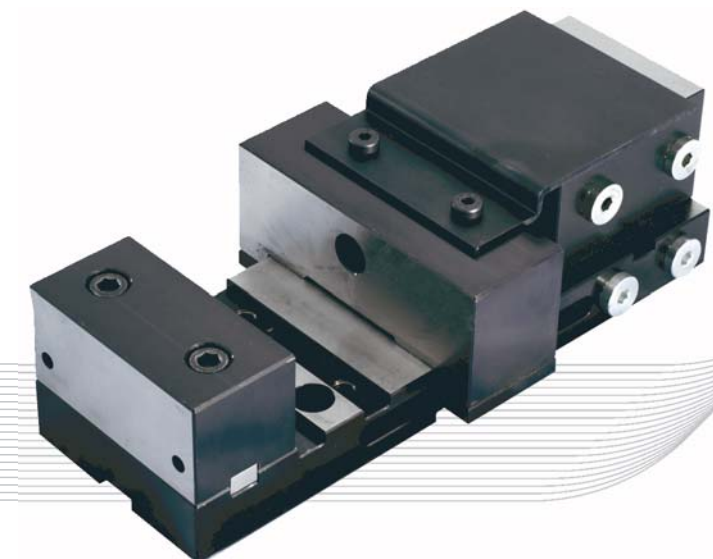
### Elements needed for the operation not supplied with the vice

- Hydraulic unit or double effect 300 bar pneumo-hydraulic pump.
- Vice unit connection hose.
- Pressure control switch.
- Gauge.
- Safety valve integrated into the unit.
- ON – OFF switch.



### Set supplied

- base body
- hydraulic cylinder
- 1 set of jaws
- instruction manual

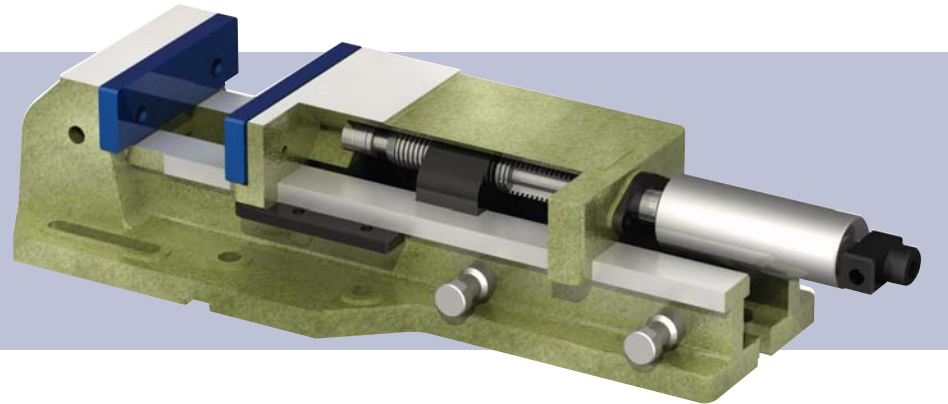


# HIGH PRESSURE AUTOMATIC vices for

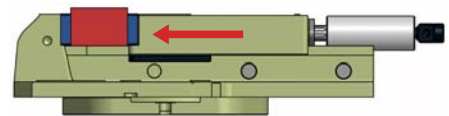
# milling and drilling machines

## Arnold OLEO-DYNAMIC

High Pressure ARNOLD OLEO-DYNAMIC vices, can obtain a clamping force of up to 8 ton. With an automatic opening and closing movement of 4 mm, they require an external oil supply to function.



- Accuracy of 0.01 mm on the clamping repeatability.
- Large opening, up to 375 mm and 845 mm if the body is in two parts.
- Monoblock design avoids deformations due to high pressure and offers great rigidity.
- Fitted with a high pressure single effect oleo-dynamic intensifier.
- Adjustable clamping force and directly proportional to the input oil pressure (see manual).
- Maximum pressure is obtained with an input pressure of 500 bar.
- The force applied by the high pressure spindle is transmitted to the work-piece in the exact centre of the clamping jaw.
- Automatically closes and opens 4 mm. (Can be increased upon request).



### VERSIONS

#### 1. Standard vice.

- Standard shape highly valued for decades.
- Clamping to the machine table is carried out through the lengthwise orifices and slots of the vice.
- Can be supplied with a rotary base



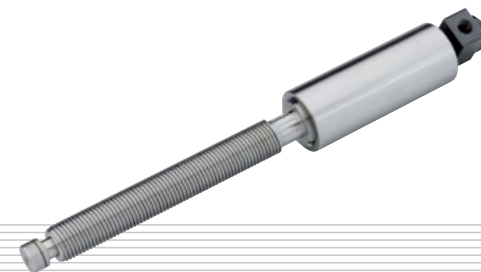
#### 2. Straight vice.

- The narrow figure enables one to be placed alongside the other, making up a large clamping unit for large work-pieces.



### OPERATION

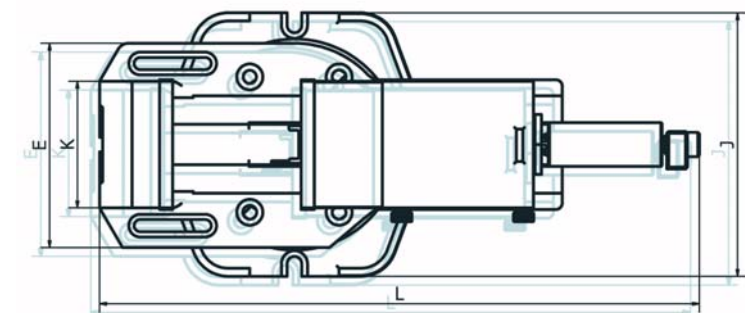
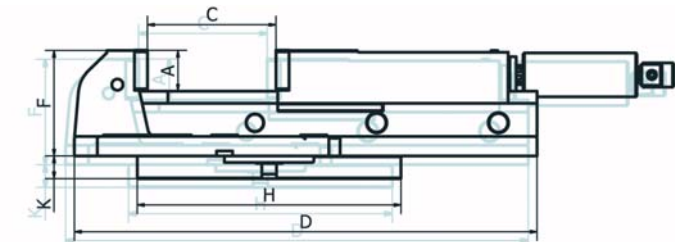
- Manually position the moveable jaw at about 4 mm from the first work-piece of the series, and from there on the vice will make this movement and the high pressure simultaneously.
- Ideal for machining large series of work-pieces.



Size	125	160	200
Arnold Oleo-Dynamic	010 140 125	010 140 160	010 140 200
Arnold Oleo-Dynamic with base	010 141 125	010 141 160	010 141 200
Arnold Straight Oleo-Dynamic	010 142 125	010 142 160	010 142 200
Clamping force (kg)	4.000	5.000	8.000
A	42,5	50,5	63,5
B	125	160	200
C	Clamping field 1	0 - 105	0 - 155
	Clamping field 2	100 - 205	150 - 305
D	425	570	680
E	197	252	302
F	107	130	160
F (Straight vice)	112	139	164
L	480-695	565-880	720-1015
Vice weight (kg)	26	51	94
Base	800 450 125	800 450 160	800 450 200
H	264	325	400
J	270	325	400
K	28	32	45
Base weight (kg)	8	15	32

#### Elements needed for the operation not supplied with the vice

- Hydraulic unit or single effect 500 bar pneumo-hydraulic pump.
- Vice unit connection hose.
- Pressure control switch.
- Gauge.
- Safety valve integrated into the unit.
- ON - OFF switch.



#### Set supplied

- base body
- oleo-dynamic spindle
- rotary connection
- 1 set of plain jaws
- 1 handle
- 4 end clamps
- instruction manual



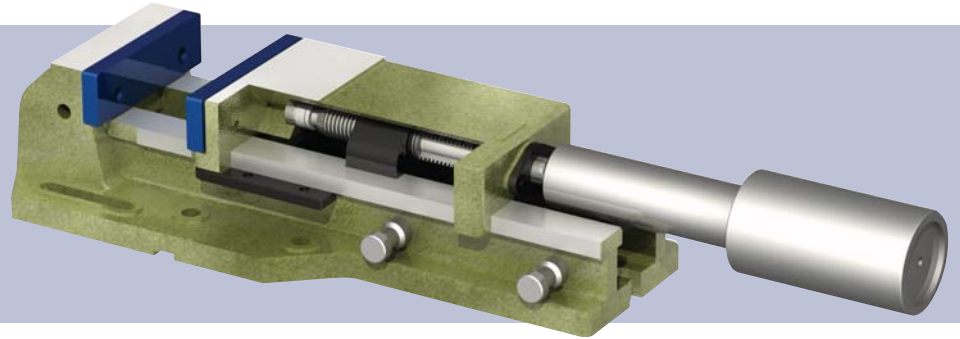
# HIGH PRESSURE AUTOMATIC vices for

# milling and drilling machines

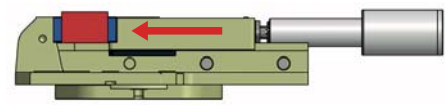
## Arnold PNEUMO-HYDRAULIC

### ARNOLD PNEUMO-HYDRAULIC

High Pressure vices can obtain a clamping force of up to 8 ton. With an automatic opening and closing movement of 4 mm they require a 6 bar air supply to work.



- 0.01 mm clamping repeatability at the same pressure.
- Monoblock design, with the head and guides as one part avoiding deformations due to high pressure and providing great rigidity.
- Large opening, up to 375 mm and 845 mm if the body is in two parts.
- Automatically opens and closes 4 mm to enable positioning of the work-piece to be clamped.
- Clamping force is 4/5/8 tons according to size.



- The force applied by the high pressure spindle is transmitted to the work-piece in the exact centre of the clamping jaw.
- The air must be filtered (dry air).
- Up to eleven different types of standard jaws.

### OPERATION

- Manually position the moveable jaw at about 4 mm from the first piece of the series, and from there on the vice will make this movement automatically and the high pressure simultaneously.
- The jaw movement of the vice can be controlled manually by means of a valve unit supplied with the vice, by a pedal or by the CNC control.
- Ideal for machining large series of work-pieces.

### VERSIONS

#### 1. Standard vice.

- Standard shape highly valued for decades.
- Clamping to the machine table is carried out through the lengthwise orifices and slots of the vice.
- Can be supplied with a rotary base



#### 2. Straight vice.

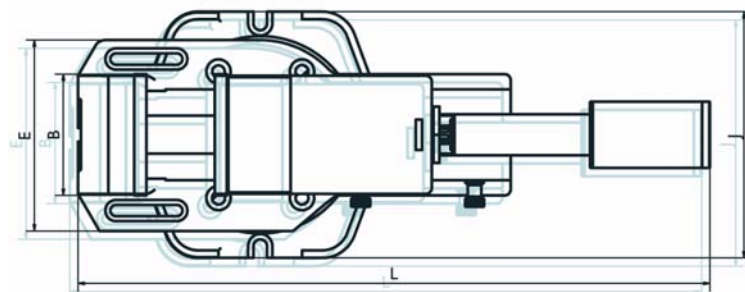
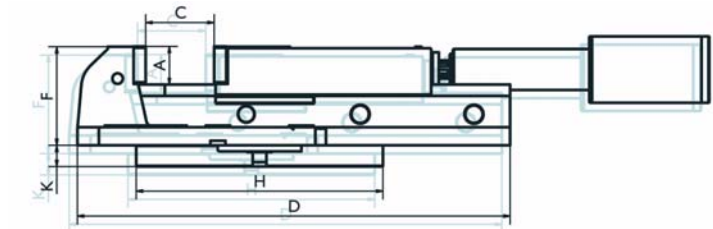
- The narrow figure enables one to be placed alongside the other, making up a large clamping unit for large pieces.



Size	125	160	200
Arnold Pneumo-Hydraulic	010 600 125	010 600 160	010 600 200
Arnold Hydraulic with base	010 601 125	010 601 160	010 601 200
Arnold Pneumo-Hydraulic	010 602 125	010 602 160	010 602 200
Clamping force (kg)	4.000	5.000	8.000
A	42,5	50,5	63,5
B	125	160	200
C Clamping field 1	0 - 105	0 - 155	0 - 210
C Clamping field 2	100 - 205	150 - 305	165 - 375
D	425	570	680
E	197	252	302
F	107	130	160
F (Straight vice)	112	139	164
L	580-785	723-1028	815-1215
Vice weight (kg)	26	51	94
Base	800 450 125	800 450 160	800 450 200
H	264	325	400
J	270	325	400
K	28	32	45
Base weight (kg)	8	15	32

#### Elements needed for the operation not supplied with the vice

- Connection pipe of the compressor to the vice.
- Filter unit, gauge and lubricator of the air input.
- Note:** If using a control pedal: The set of valves supplied with the vice must be placed between the compressor and the pedal, not between the pedal and the vice.



#### Set supplied

- base body
- pneumo-hydraulic spindle
- anti-return valve
- 1 set of plain jaws
- 4 end clamps
- instruction manual

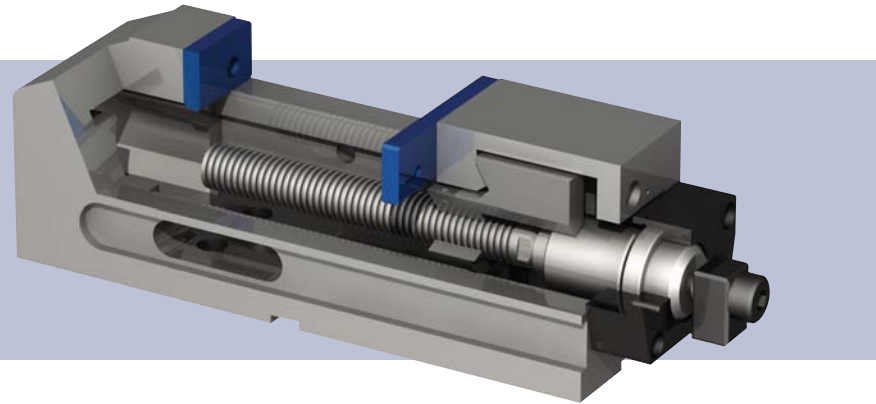


# HIGH PRESSURE AUTOMATIC vices for

# vertical machining centres

## Arnold compact OLEO-DYNAMIC

ARNOLD COMPACT OLEO-DYNAMIC High Pressure vices, maintain their length irrespective of the size of the work-piece, making them ideal for use in machining centres.

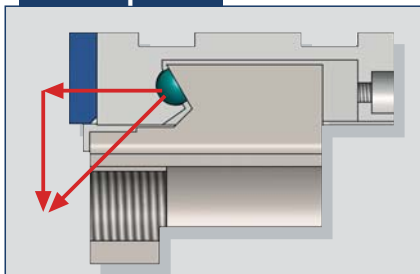


- 0.01 mm clamping repeatability.
- Suitable for working in vertical machining centres.
- Monoblock design avoids deformations due to high pressure and offers great rigidity.
- Fitted with a high pressure single effect oleo-dynamic intensifier.
- Adjustable clamping force and directly proportional to the input oil pressure (see manual).
- Maximum pressure with an input pressure of 500 bar.
- Clamping force is 2.5/4/5 tons according to size.
- Rotary connection at the input and the outlet of the oil.
- Automatically opens and closes 4 mm to enable the work-piece to be clamped (can be increased if specifically requested).

- Side windows to enable the interior cleaning of the vices.

- As these vices are supplied by an external hydraulic unit, they perform better than other models when it comes to clamping large work-pieces between several vices in parallel.
- Therefore, they are capable of correcting buckling defects on large work-pieces, avoiding vibrations on the corners

### Semi-sphere



The ARNOLD COMPACT has a descending clamp system to avoid that the work-piece lifts up.

This is a semi-sphere installed between the moveable jaw and the spindle shoe. When the clamping force is carried out by the spindle, this pressure is divided in two directions, one of which pulls down on the work-piece.

### Elements needed for the operation not supplied with the vice

- Hydraulic unit or single effect 500 bar Pneumo-hydraulic pump.
- Vice unit connection hose.
- Pressure switch.
- Gauge.
- Safety valve integrated into the unit
- ON – OFF Button.

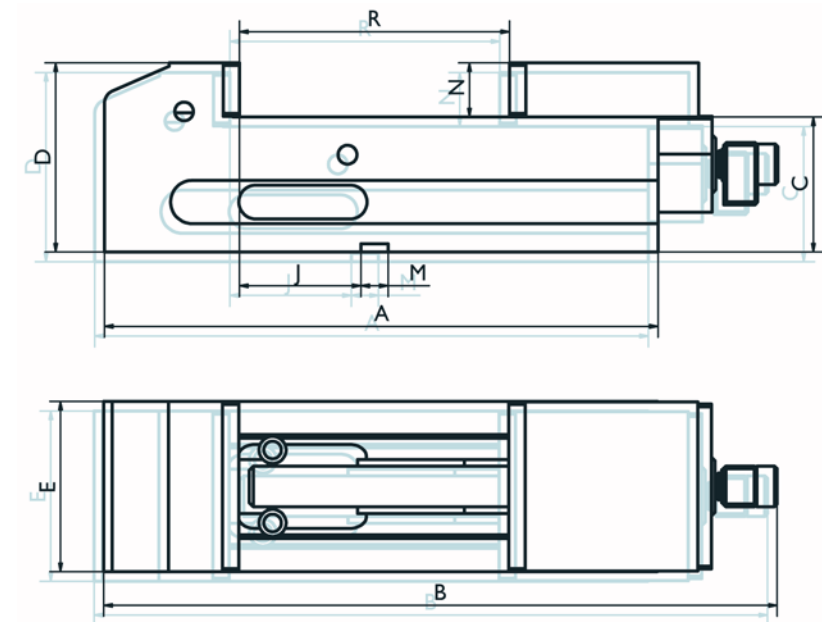
### OPERATION

- Manually position the moveable jaw to about 4 mm from the first work-piece of the series, and from there onto the automatic mode.
- The vice operates this movement and the high pressure simultaneously.
- This characteristic makes it specially ideal for machining large series of work-pieces.

### APPLICATION



Size	090	125	160
Arnold Compact Oleo-dynamic	030 140 090	030 140 125	030 140 160
Clamping force (kg)	2.500	4.000	5.000
A	300	400	570
B Oleo-dynamic	384	499	654
C-0,02	75	100	110
D	115	140	160
E	91	126	161
J	40	90	115
M H7	20	20	20
N	40	40	50
R	0 - 130	0 - 200	0 - 314
Weight (kg)	16	35	70

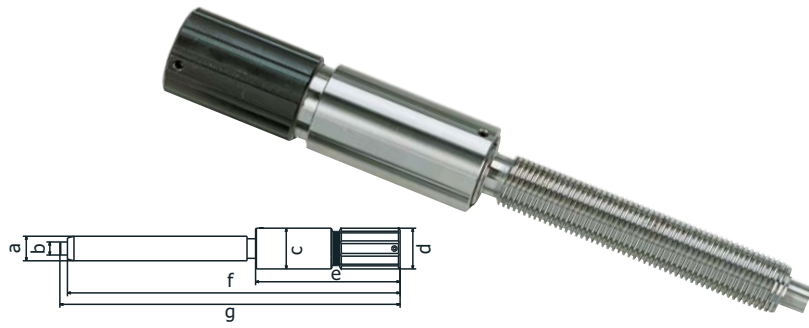


### Set supplied

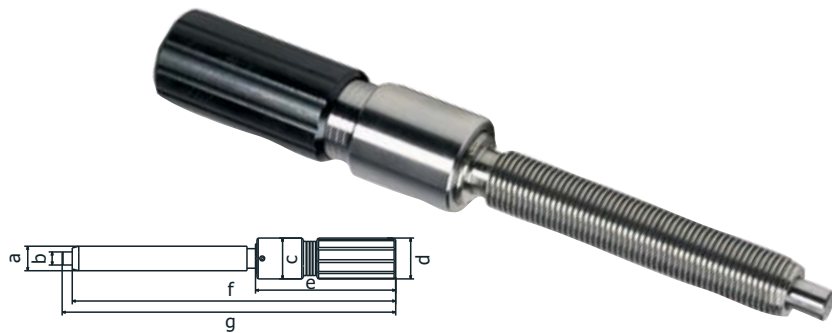
- base body
- oleo-dynamic spindle
- rotary connection
- 1 set of plain jaws
- 1 handle
- 4 end clamps
- instruction manual



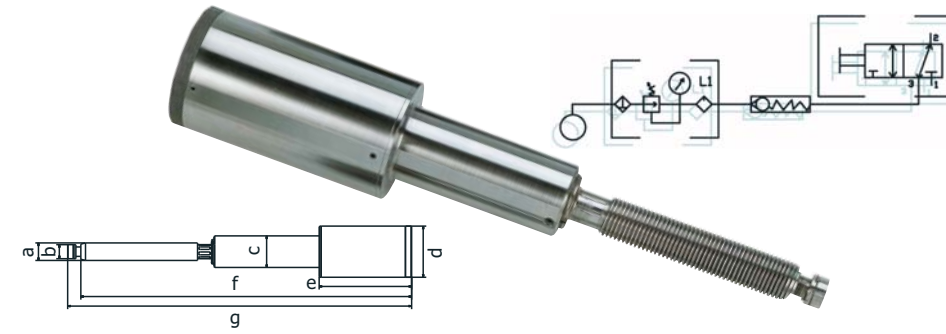
# ARNOLD spindles



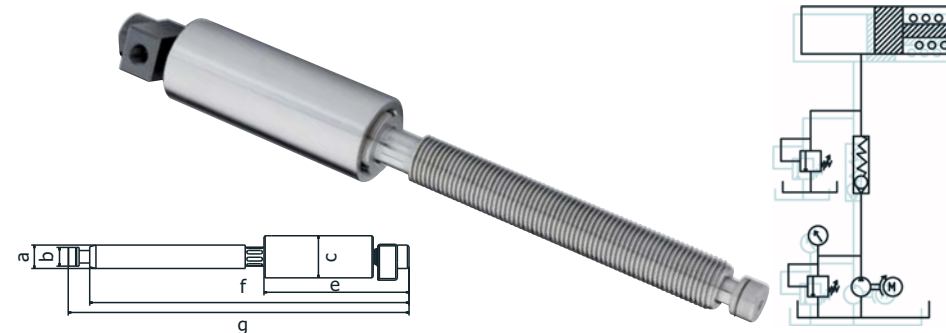
Arnold mechanical spindle	090	125	160	200
<b>Spindle dimensions</b>	<b>800 200 090</b>	<b>800 200 125</b>	<b>800 200 160</b>	<b>800 200 200</b>
Clamping force (kg)	2.500	4.000	5.000	8.000
a	Trap. 24 x 2,5	Trap. 30 x 6	Trap. 30 x 6	Trap. 36 x 6
b	ø12d9	ø16d9	ø16d9	ø18d9
c	ø42	ø50	ø50	ø62
d	ø45	ø50	ø50	ø50
e	144	177	177	226
f	275	348	408	535
g	288	362	423	546
Weight (kg)	1,8	3	3,3	6



Arnold hydraulic spindle	090	125	160	200
<b>Spindle dimensions</b>	<b>800 010 090</b>	<b>800 010 125</b>	<b>800 010 160</b>	<b>800 010 200</b>
Clamping force (kg)	2.500	4.000	5.000	8.000
a	Trap. 24 x 5	Trap. 30 x 6	Trap. 30 x 6	Trap. 36 x 6
b	ø12d9	ø16d9	ø16d9	ø18d9
c	ø42	ø50	ø50	ø62
d	ø45	ø50	ø50	ø50
e	168	175	175	218
f	301	345	404	526
g	307	360	418	536
Weight (kg)	1,8	2,8	3,2	5,3



Arnold pneumo-hydraulic spindle	125	160	200
<b>Spindle dimensions</b>	<b>800 600 125</b>	<b>800 600 160</b>	<b>800 600 200</b>
Clamping force (kg)	4.000	5.000	8.000
a	Trap. 30 x 6	Trap. 30 x 6	Trap. 36 x 6
b	ø24d9	ø24d9	ø30d9
c	ø54	ø54	ø68
d	ø88	ø88	ø88
e	285	344	348
f	448	567	654
g	472	589	675
Weight (kg)	5,5	6,5	8,1



Arnold oleo-dynamic spindle	125	160	200
<b>Spindle dimensions</b>	<b>800 140 125</b>	<b>800 140 160</b>	<b>800 140 200</b>
Clamping force (kg)	4.000	5.000	8.000
a	Trap. 30 x 6	Trap. 30 x 6	Trap. 36 x 6
b	ø16d9	ø24d9	ø30d9
c	ø54	ø54	ø68
e	190	190	150
f	337	413	435
g	378	436	493
Weight (kg)	4,6	3,6	5



# ARNOLD - Common accessories

Plain	900 360 090	900 360 125	900 360 160	900 360 200
A	40	40	50	63
B	90	125	160	200
C	12	12	16	20

Hold down	900 361 090	900 361 125	900 361 160	900 361 200
A	40	40	50	63
B	90	125	160	200
C	12	12	16	20
D	21	21	26	30
E	32	32	40	54

Serrated	900 362 090	900 362 125	900 362 160	900 362 200
A	40	40	50	63
B	90	125	160	200
C	12	12	16	20

Prismatic	900 363 090	900 363 125	900 363 160	900 363 200
A	40	40	50	63
B	90	125	160	200
F	28	28	33	48
D max.	40	40	50	64
D min.	13	13	16	20

Precision	900 364 125	900 364 160	900 364 200
A	40	50	63
B	125	160	200
C	27	27	33

Soft jaw	901 360 090	901 360 125	901 360 160	901 360 200
A	40	40	50	63
B	90	125	160	200
C	30	30	40	40

Pendular jaw	800 366 090	800 366 125	800 366 160	800 366 200
A	40	40	50	62,5
B	90	125	160	200
C	26,5	29,5	39,5	44,5
D	35	42	54	59
E	5	5	5	7,5
F	30	30	40	48
G	74	97	130	170

Inserts jaw	801 364 090	801 364 125	801 364 160	801 364 200
A	40	40	50	63
B	90	125	160	200
C	17	17	17	19,5
D	29,5	29,5	39,5	50,5
E	34,5	34,5	44,5	56,5
F	8	8	8	8
N° Inserts jaw	4	6	7	8

Hydraulic	800 365 125	800 365 160	800 365 200
A	40	50	63
B	125	160	200
H	40	132	176
I	100	132	176
J	36	36	40
K	41	41	45

Base serrated jaws	901 365 090	901 365 125	901 365 160	901 365 200
A	40	40	50	63
B	90	125	160	200
C	14	16	18	20
D	3	3	3	3
E	2,5	2,5	2,5	2,5

# ARNOLD - Specific accessories

Stepped	901 362 090	901 362 125	901 362 160	901 362 200
A	40	40	50	63
B	90	125	160	200
C	12	12	16	20
D	3	5	5	6
E	6	8	8	10

Angle driver	090	125	160	200
A	88	88	88	88
B	96	96	96	96
C	102	102	102	102

Adjustable stop	800 991 090	800 991 125
Size	90	125

## Accessories for the Arnold Mat vice

High plain	901 361 125	901 361 160	901 361 200
A	75,5	95,5	109,5
B	125	160	200
C	47	47	70
D	37	47	48
E	22	22	28

Low profile	910 560 090	910 560 125	910 560 160	910 560 200
A	17	17	17	17
B	90	125	160	200
C	20	24	24	24

Plain/Serrated	910 570 090	910 570 125	910 570 160	910 570 200
A	16,8	16,8	16,8	16,8
B	90	125	160	200
C	30	40	40	40
D	20	24	24	24
E	11	11	11	11

## Accessories for the Arnold Twin vice

Central block hard Twin	941 311 090	941 311 125
A	110	135
B	40	50

Stepped central hard Twin	941 060 090	941 060 125
A	110	135
B	40	40
C	29	50
D	20	22

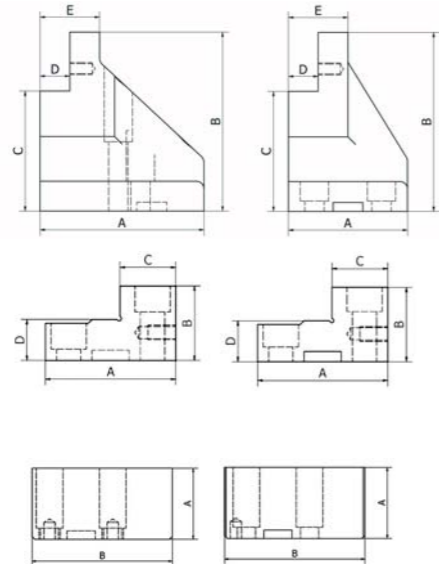
Lateral hard Twin	941 150 090	941 150 125
A	64	70
B	40	40
C	29	30
D	20	22

Central machinable Twin	941 081 090	941 081 125
A	150	150
B	40	50

Lateral machinable Twin	941 170 090	941 170 125
A	90	100
B	40	50

# ARNOLD - Specific accessories

## Accessories for Arnold vices 5XM and MB2

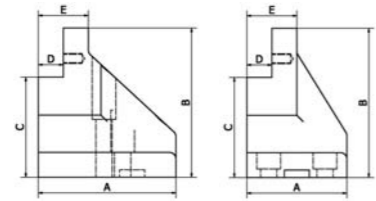


High MB2 (fixed and moveable)	960 361 125	960 362 125
A	80	110
B	121	121
C	81	81
D	20	20
E	40	40

MB2	961 181 125	941 150 125	961 181 160	961 150 160
A	70	70	100	100
B	40	40	50	50
C	30	30	40	40
D	22	22	30	30

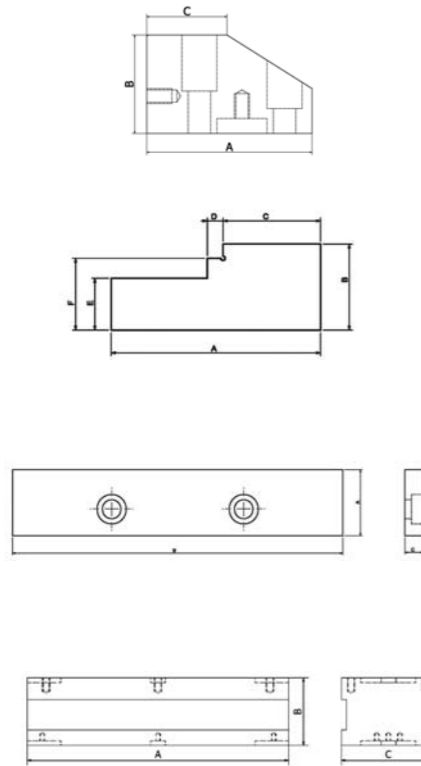
Soft MB2	961 081 125	941 170 125	961 081 160	961 171 160
A	100	100	160	160
B	50	50	65	65

## Accessories for Arnold vices 5XL



HIGH 5XL	950 361 125	950 362 125
A	125	147
B	150	150
C	110,5	110,5
D	20	20
E	40	40

## Accessories for Arnold SC



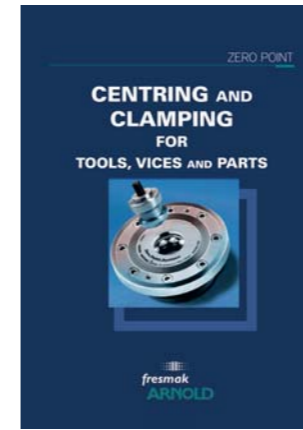
SOFT SC	851 110 090	851 110 125
A	66	100
B	40	40
C	32	50

HARD SC	951 150 090	951 150 125
A	53	73
B	30	30
C	26	34
D	3	5,5
E	18	18
F	25	25

PLAIN SC	951 050 090	951 050 125
A	25	25
B	90	125
C	6	7

BASE PLATE	950 410 090	950 410 125
A	250	350
B	90	90
C	91	126

# Catalogue request



ZERO POINT



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# Reference Chart

## Manually operated vices

	90	125	160	200
ARNOLD MAT MECHANICAL VICE	020 120 090	020 120 125	020 120 160	020 120 200
Spindle	812 000 090	812 000 125	812 000 160	
ARNOLD MAT MECHANICAL VICE WITH REGULATOR		020 130 125	020 130 160	020 130 200
Spindle		813 000 125	813 000 160	
ARNOLD MAT HYDRAULIC VICE	020 200 090	020 200 125	020 200 160	020 200 200
Spindle	820 000 090	820 000 125		
ARNOLD MAT HYDRAULIC VICE WITH REGULATOR		020 210 125	020 210 160	020 210 200
Spindle		821 000 125	821 000 160	
ARNOLD PROX VICE		800 200 125	080 200 160	080 200 200
Spindle		880 000 125	880 000 160	
ARNOLD TWIN HYDRAULIC VICE	040 410 090	040 410 125		
Spindle	841 000 090	841 000 125		
ARNOLD MECHANICAL VICE				
standard (no base)	010 200 090	010 200 125	010 200 160	010 200 200
standard+ base	010 201 090	010 201 125	010 201 160	010 201 200
Straight	010 202 090	010 202 125	010 202 160	010 202 200
straight in two parts			010 203 160	010 203 200
Spindle	800 200 090	800 200 125	800 200 160	800 200 200
ARNOLD MECHANICAL VICE				
standard (no base)		010 210 125	010 210 160	
standard+ base		010 211 125	010 211 160	
Straight		010 212 125	010 212 160	
Spindle		800 210 125	800 210 160	
ARNOLD HYDRAULIC VICE				
standard (no base)	010 010 090	010 010 125	010 010 160	010 010 200
standard+ base	010 011 090	010 011 125	010 011 160	010 011 200
Straight	010 012 090	010 012 125	010 012 160	010 012 200
straight in two parts			010 013 160	010 013 200
Spindle	800 010 090	800 010 125	800 010 160	800 010 200
ARNOLD HYDRAULIC VICE WITH REGULATOR				
standard (no base)		010 110 125	010 110 160	010 110 200
standard+ base		010 111 125	010 111 160	010 111 200
Straight		010 112 125	010 112 160	010 112 200
Spindle		800 110 125	800 110 160	800 110 200
ARNOLD MB2 VICE		060 121 125	060 121 160	
Spindle		812 006 125	812 006 160	
ARNOLD MB2 VICE+ REGULATOR		060 131 125	060 131 160	
Spindle		813 006 125	813 006 160	
ARNOLD COMPACT MECHANICAL VICE	030 120 090	030 120 125	812 000 160	
Spindle	812 000 090	812 000 125	030 120 160	
ARNOLD COMPACT MEC. VICE +REGULATOR		030 130 125	030 130 160	
Spindle		813 000 125		
ARNOLD 5X VICE version M		050 121 125		
Spindle		812 006 125		
ARNOLD 5X VICE version M+ REGULATOR		050 131 125		
Spindle		813 006 125		
ARNOLD 5X VICE version L		050 130 125		
Spindle		813 000 125		
ARNOLD SC VICE	050 200 090	050 200 125		
Spindle	800 205 090	800 205 125		

## Automatic vices

	60	125	160	200
ARNOLD MAT OLEO-DYNAMIC VICE	020 140 090	020 140 125	020 140 160	020 140 200
Spindle	814 000 090	814 000 125	814 000 160	
ARNOLD AUTOMAT VICE		070 200 125	070 200 160	070 200 200
Spindle		870 000 125	870 000 160	870 000 200
ARNOLD MAT PNEUMO- HYDRAULIC VICE	020 600 090	020 600 125	020 600 160	020 600 200
Spindle	816 000 090	816 000 125	816 000 160	
ARNOLD TWIN OLEO-DYNAMIC VICE	040 140 090	040 140 125		
Spindle	844 000 090	844 000 125		
ARNOLD TWIN PNEUMO-HYDRAULIC VICE		040 600 125		
Spindle		846 000 125		
ARNOLD IZ1 VICE		090 600 125		
ARNOLD IZ2 VICE	090 060 100			
ARNOLD OLEO-DYNAMIC VICE				
standard (no base)		010 140 125	010 140 160	010 140 200
standard+ base		010 141 125	010 141 160	010 141 200
Straight		010 142 125	010 142 160	010 142 200
Spindle		800 140 125	800 140 160	800 140 200
ARNOLD PNEUMO- HYDRAULIC VICE				
standard (no base)		010 600 125	010 600 160	010 600 200
standard+ base		010 601 125	010 601 160	010 601 200
Straight		010 602 125	010 602 160	010 602 200
Spindle		800 600 125	800 600 160	800 600 200
ARNOLD COMPACT OLEO-DYNAMIC VICE	030 140 090	030 140 125	030 140 160	
Spindle	814 000 090	814 000 125	814 000 160	

## Arnold Mat tombstone

	60	125	160	200
Dual Base Plate	890 010 090	890 010 125	890 010 160	890 010 200
Dual double Base Plate	890 020 090	890 020 125	890 020 160	890 020 200
Cube S 4x90°	890 030 090	890 030 125	890 030 160	890 030 200


## Arnold Twin tombstone


	60	125	160	200
Dual Base Plate	890 014 090	890 014 125		
Dual double Base Plate	890 024 090	890 024 125		
Cube S 4x90°	890 034 090	890 034 125		

## Automatic vices

	60	125	160	200
Plain jaw	900 360 090	900 360 125	900 360 160	900 360 200
Low profile jaw	900 361 090	900 361 125	900 361 160	900 361 200
Serrated jaw	900 362 090	900 362 125	900 362 160	900 362 200
Prismatic jaw	900 363 090	900 363 125	900 363 160	900 363 200
Precision jaw		900 364 125	900 364 160	900 364 200
Hydraulic jaw		800 365 125	800 365 160	800 365 200
Soft jaws	901 360 090	901 360 125	901 360 160	901 360 200
Pendular jaw	800 366 090	800 366 125	800 366 160	800 366 200
Jaws with inserts	801 364 090	801 364 125	801 364 160	801 364 200
Base serrated jaw	901 365 090	901 365 125	901 365 160	901 365 200
Stepped jaw	901 362 090	901 362 125	901 362 160	901 362 200
High plain jaw		901 361 125	901 361 160	901 361 125
ARNOLD MAT Low profile jaw	910 560 090	910 560 125	910 560 160	910 560 200
ARNOLD MAT Plain/Serrated jaw	910 570 090	910 570 125	910 570 160	910 570 200
Hard jaws Twin (set)	841 171 090	841 171 125		
TWIN Lateral hard jaw	941 150 090	941 150 125		
TWIN Central staggered hard jaw	941 061 090	941 061 125		
TWIN Central rectangular hard jaw	941 311 090	941 311 125		
TWIN Soft jaws	841 181 090	841 181 125		
ARNOLD MB2 Hard moveable jaw		941 150 125	961 150 160	
ARNOLD MB2 Hard fixed jaw		961 181 125	961 181 160	
ARNOLD MB2 Hard jaw set		861 181 125	861 181 160	
ARNOLD MB2 Soft moveable jaw		941 170 125	961 171 160	
ARNOLD MB2 Soft fixed jaw		961 081 125	961 081 160	
ARNOLD MB2 Soft jaw set		861 081 125	861 081 160	
ARNOLD 5x Moveable jaw version M		960 362 125		
ARNOLD 5x Fixed jaw version M		960 361 125		
Moveable jaw ARNOLD 5XL		950 362 125		
Fixed jaw ARNOLD 5XL		950 361 125		
Set hart jaws ARNOLD SC	951 150 090	951 150 125		
Set special soft jaws ARNOLD SC	851 110 090	851 110 125		
Plain jaw ARNOLD SC	951 050 090	951 050 125		
Base plate SC	950 410 090	950 410 125		
Socket wrench	850 600 090	850 600 125		
30° Angle driver - ARNOLD hydraulic mat.	820 001 090	820 001 125	820 001 160	820 001 160
30° Angle driver - ARNOLD mat + mec. compact.	812 001 090	812 001 125	812 001 160	812 001 160
30° Angle driver - ARNOLD twin hydraulic.	842 001 090	842 001 125		
Adjustable precision stop	800 991 090	800 991 125		
ARNOLD rotary base	800 450 090	800 450 125	800 450 160	800 450 200
Handle	810 600 090	810 600 090	810 600 090	810 600 090

## CUBES/TOMBSTONES

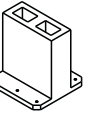
pre-machined	article code	Weight (kg)
	540 250 500	153
	550 300 600	250
	563 350 700	354
	580 500 800	593

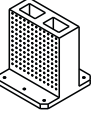
reticulated	article code	Weight (kg)
	540 250 501	149
	550 300 601	243
	563 350 701	346
	580 500 801	563

## Dimensions

Base	Column	Total height
400 x 400	250 x 250	500
500 x 500	300 x 300	600
630 x 630	350 x 350	700
800 x 800	500 x 500	800

## RECTANGULAR CUBES/TOMBSTONES

pre-machined	article code	Weight (kg)
	640 155 500	170
	650 206 600	265
	663 257 700	484
	680 308 800	598

reticuladas	article code	Weight (kg)
	640 155 501	155
	650 206 601	250
	663 257 701	425
	680 308 801	590

## Dimensions

Base	Column	Total height
400 x 400	150 x 150	500
500 x 500	200 x 200	600
630 x 630	250 x 250	700
800 x 800	300 x 300	800

# Example of APPLICATIONS



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example of applications