

## **HYDRAULIC CYLINDERS**

## **HYDRAULIC POWER UNIT**

Gaudent-Vietha specializes in supplying high-quality hydraulic power units and hydraulic cylinders, designed for durability, stable operation, and suitability for a wide range of industrial applications. Our products help optimize system performance and provide reliable hydraulic solutions for customers.

### ★ GV-HPU-SBT-01: Hydraulic Power Unit for Steel Beam Tilting System

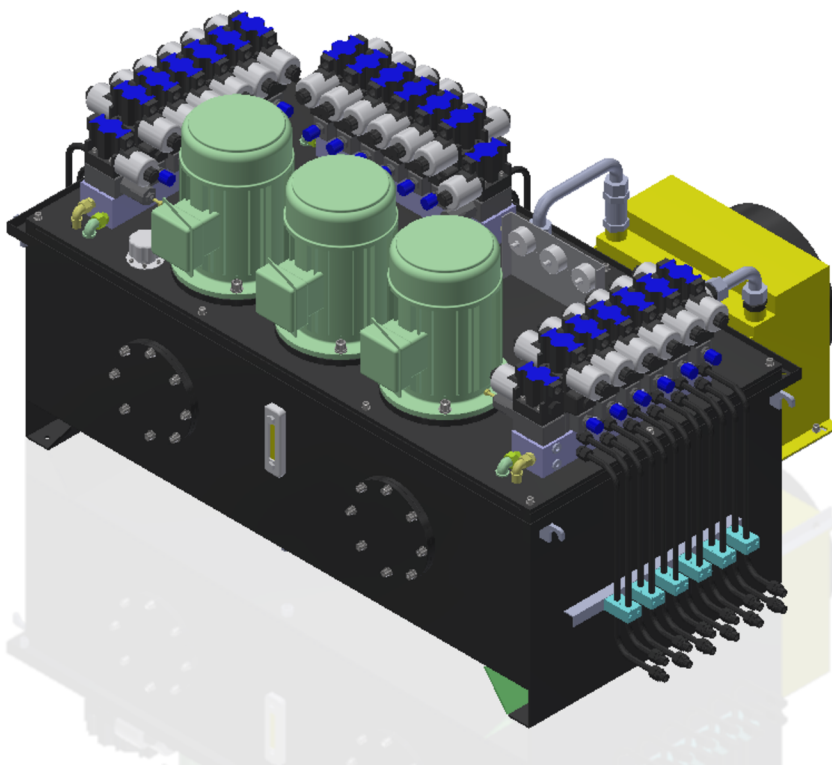
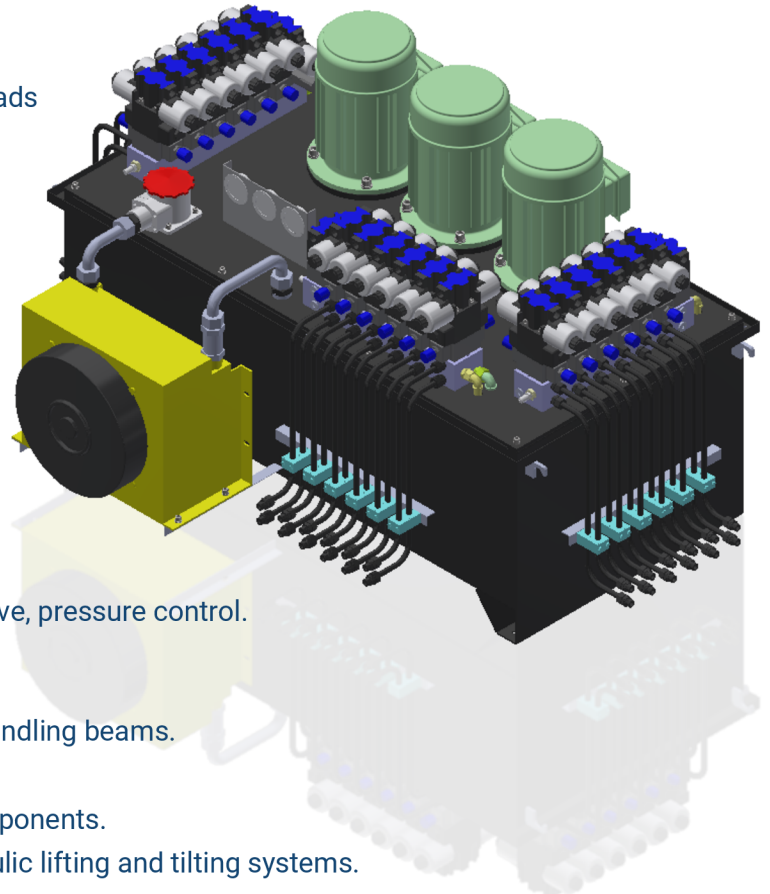
High-power hydraulic power unit, specially designed for steel beam tilting systems. Provides stable operation, handles heavy loads and continuous duty cycles, and is easily integrated into existing systems.

#### Technical Specifications

- Motor: 7.5 - 15 kW.
- Voltage: 380V - 50Hz.
- Pump type: Gear / Piston Pump.
- Pump flow: 20 - 63 L/min.
- Operating pressure: 16 - 25 MPa.
- Oil tank capacity: 200 - 500 L.
- Oil filter: 10 - 25  $\mu$ m.
- Control valves: Directional valve, safety valve, pressure control.

#### Applications

- Steel fabrication factories for tilting and handling beams.
- Heavy machinery manufacturing plants.
- Workshops producing structural steel components.
- Industrial facilities requiring reliable hydraulic lifting and tilting systems.



## ★ GV-HPU-CL-01: Hydraulic Power Unit for Clamping Machine

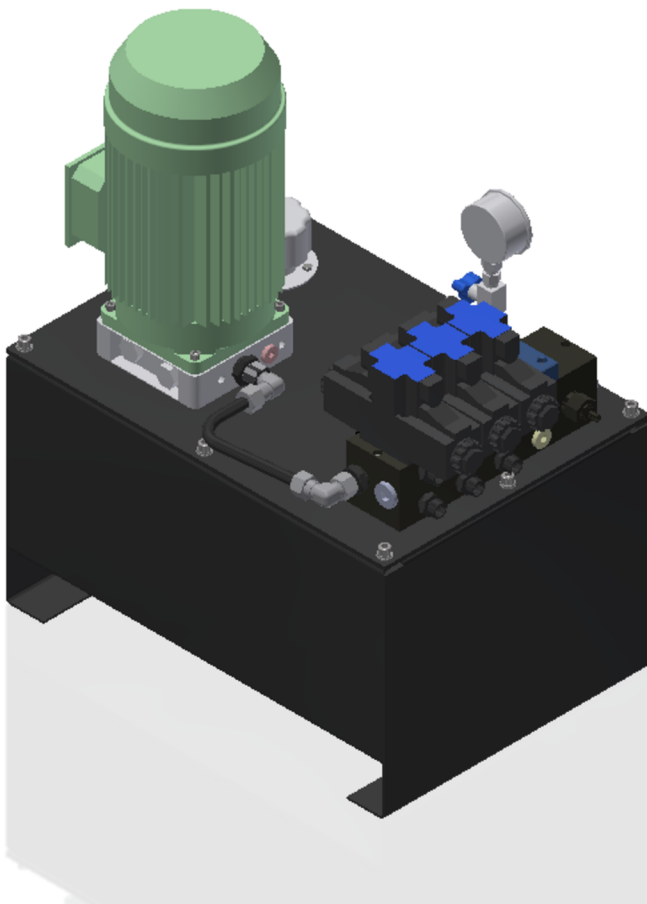
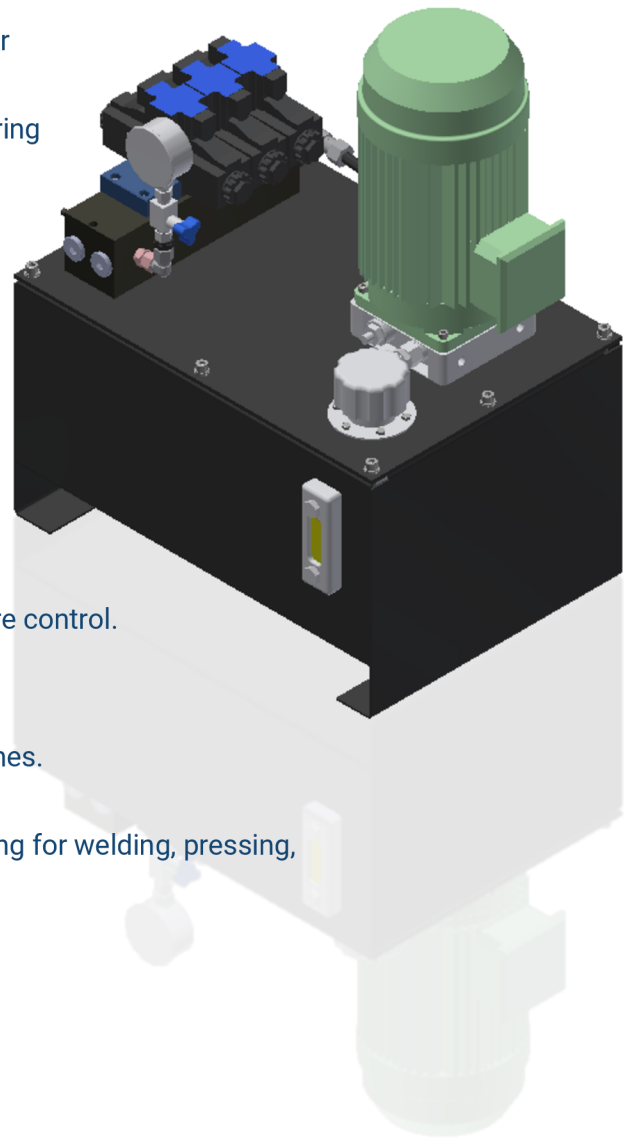
High-power hydraulic power unit, specially designed for press machines. Provides stable operation, precise pressure control, and continuous duty capability, ensuring consistent performance during pressing operations.

### Technical Specifications

- Motor: 3 - 5.5 kW.
- Voltage: 380V - 50Hz.
- Pump type: Gear / Piston Pump.
- Pump flow: 10 - 25 L/min.
- Operating pressure: 16 - 21 MPa.
- Oil tank capacity: 50 - 80 L.
- Oil filter: 10 - 25  $\mu$ m.
- Control valves: Directional valve, safety valve, pressure control.

### Applications

- Manufacturing plants with hydraulic clamping machines.
- Metal forming and assembly workshops.
- Industrial facilities requiring precise hydraulic clamping for welding, pressing, or assembly operations.



## ★ GV-HPU-SBW-01: Hydraulic Power Unit for Steel Beam Welding System

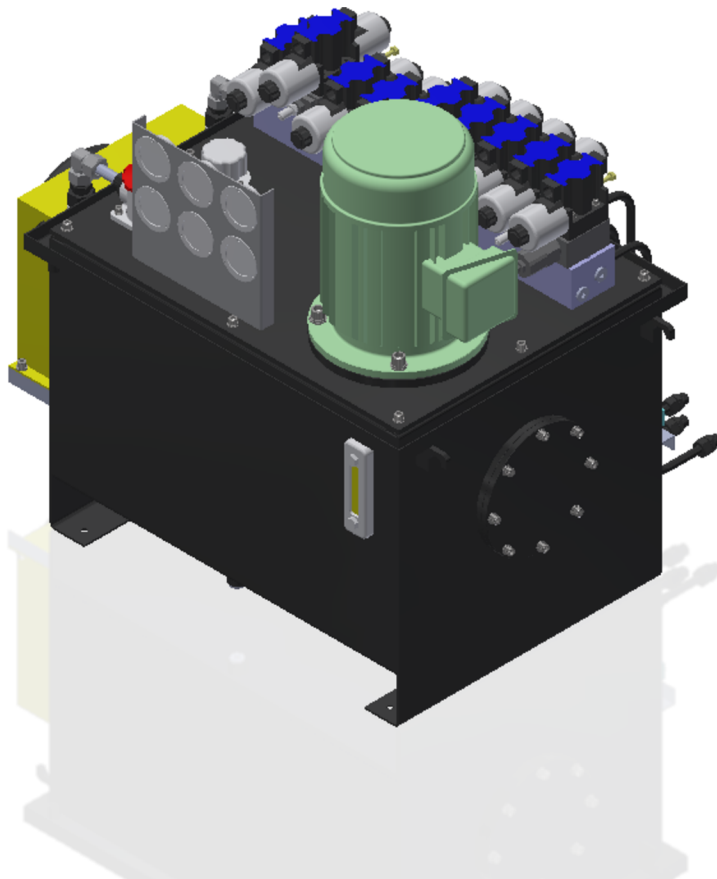
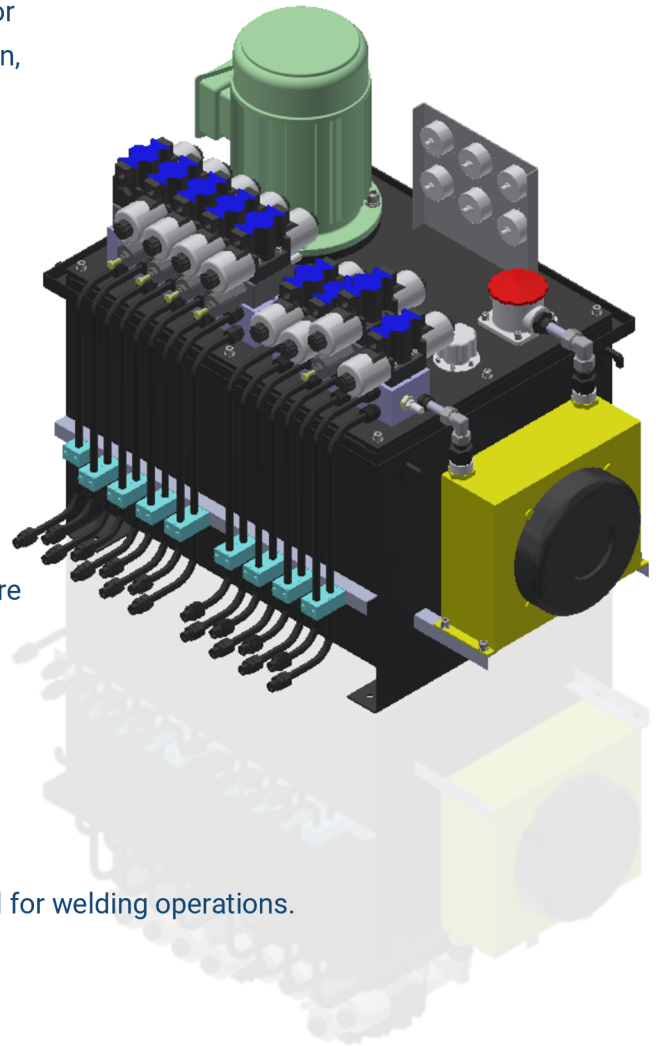
High-power hydraulic power unit, specially designed for steel beam welding systems. Provides stable operation, precise control, and continuous duty capability, easily integrated into automated welding lines.

### Technical Specifications

- Motor: 7.5 - 15 kW.
- Voltage: 380V - 50Hz.
- Pump type: Gear / Piston Pump.
- Pump flow: 20 - 63 L/min.
- Operating pressure: 16 - 25 MPa.
- Oil tank capacity: 100 - 200 L.
- Oil filter: 10 - 25  $\mu$ m.
- Control valves: Directional valve, safety valve, pressure control.

### Applications

- Steel fabrication factories for welding large beams.
- Heavy machinery manufacturing plants.
- Workshops producing structural steel components.
- Industrial facilities requiring precise hydraulic control for welding operations.



## ★ GV-HPU-PR-01: Hydraulic Power Unit for Press Machine

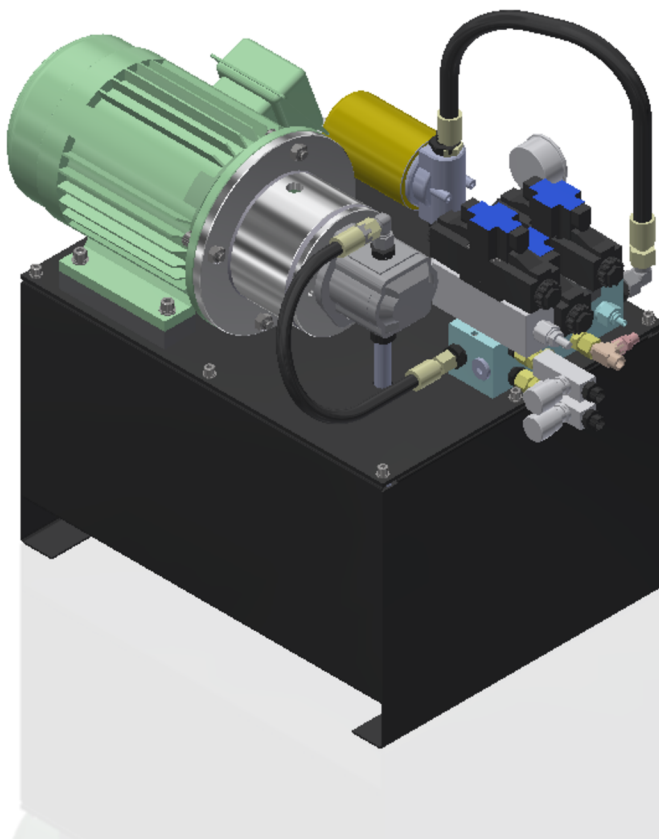
High-power hydraulic power unit, specially designed for press machines. Provides stable operation, precise pressure control, and continuous duty capability, ensuring consistent performance during pressing operations.

### Technical Specifications

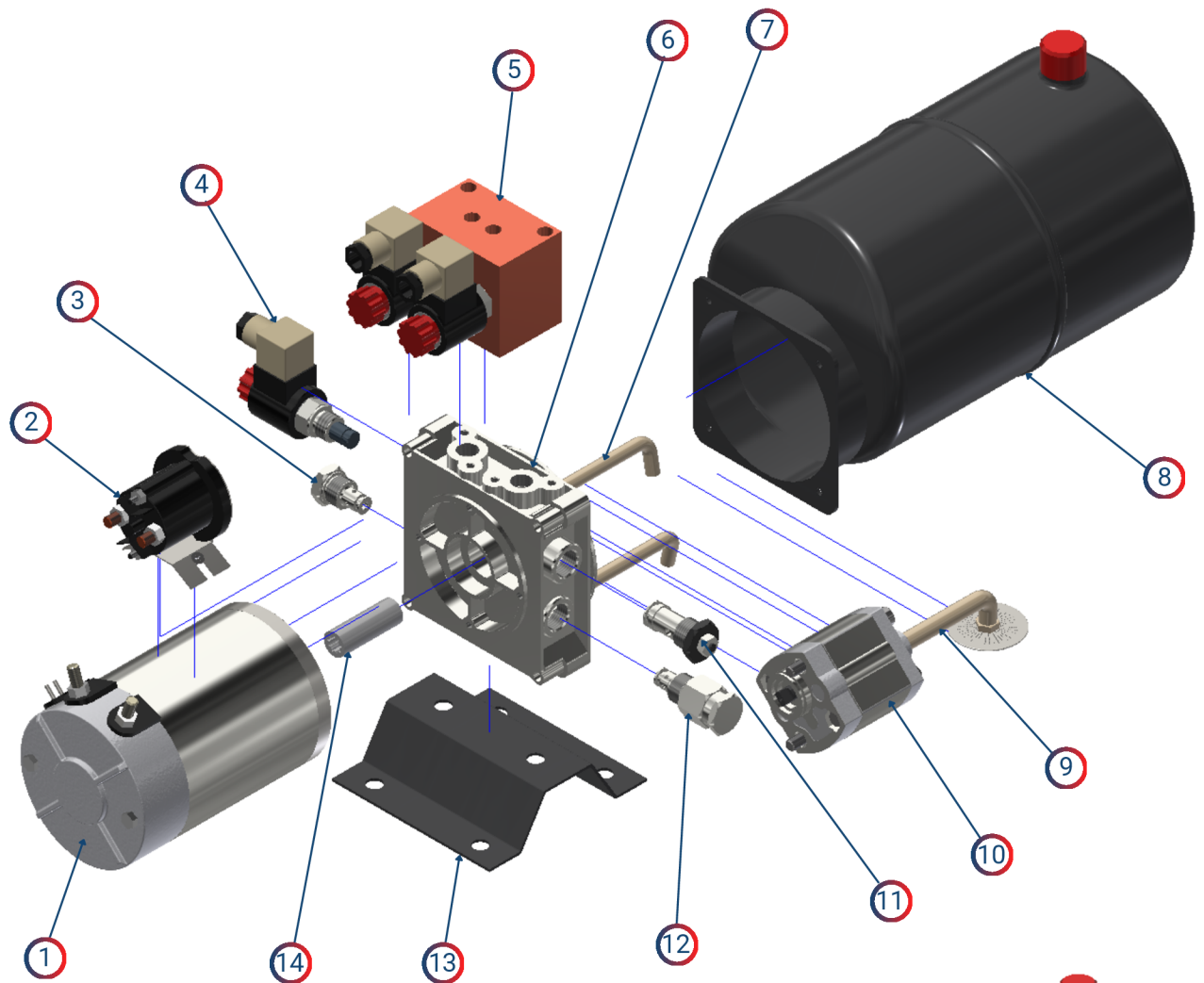
- Motor: 7.5 - 15 kW.
- Voltage: 380V - 50Hz.
- Pump type: Gear / Piston Pump.
- Pump flow: 20 - 60 L/min.
- Operating pressure: 16 - 25 MPa.
- Oil tank capacity: 100 - 200 L.
- Oil filter: 10 - 25  $\mu$ m.
- Control valves: Directional valve, safety valve, pressure control.

### Applications

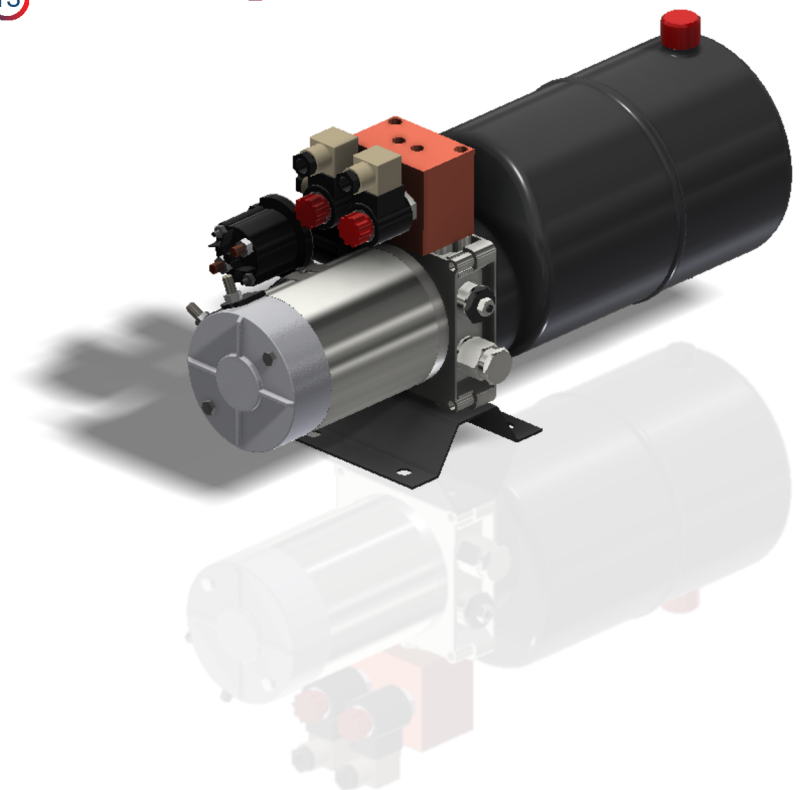
- Manufacturing plants with hydraulic press machines.
- Metal forming and stamping workshops.
- Industrial facilities requiring precise hydraulic pressure for pressing, bending, or molding operations.



## Construction of mini hydraulic power unit

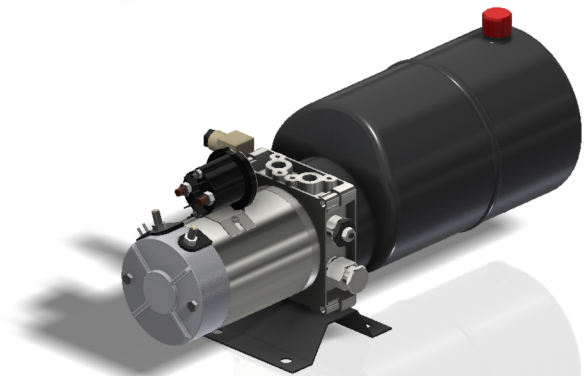
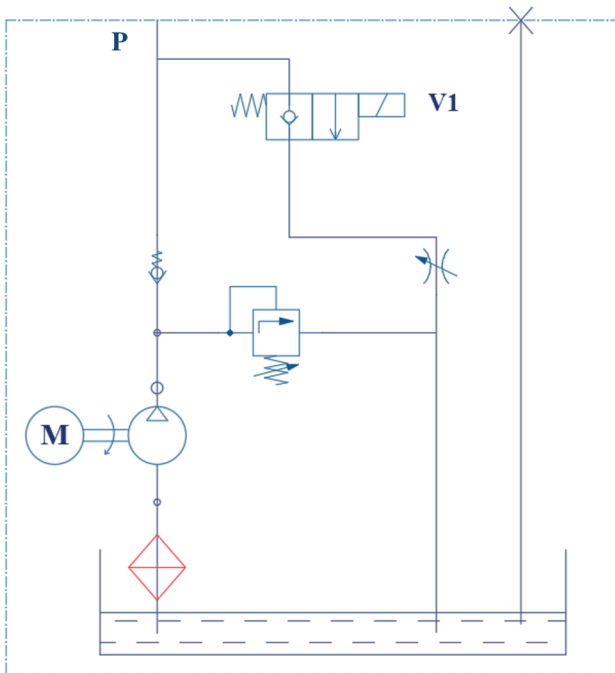


1. DC motor.
2. Start switch.
3. Check valve.
4. Control valve.
5. Solenoid sandwich valve.
6. Center block.
7. Exhaust pipe
8. Oil tank.
9. Suction filter
10. Pump
11. Control valve.
12. Relief valve.
13. Standing
14. Coupling



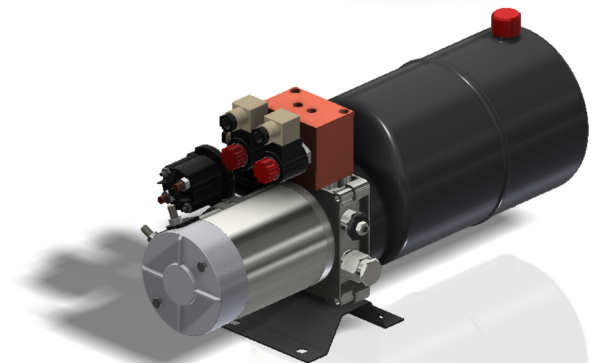
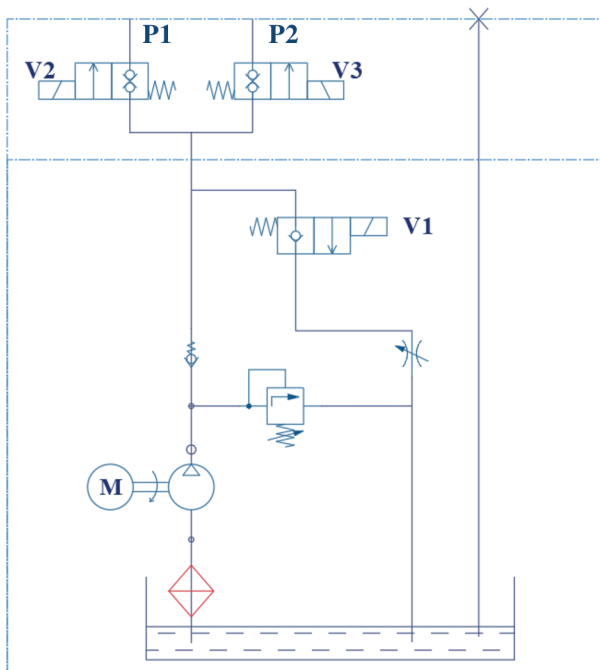
## Some basic type of Gaudent-Vietha mini power unit

### ★ VHMPU MDC12/1.6(24/2.2)-B01-CBK2.1(2.5)-T06(08)



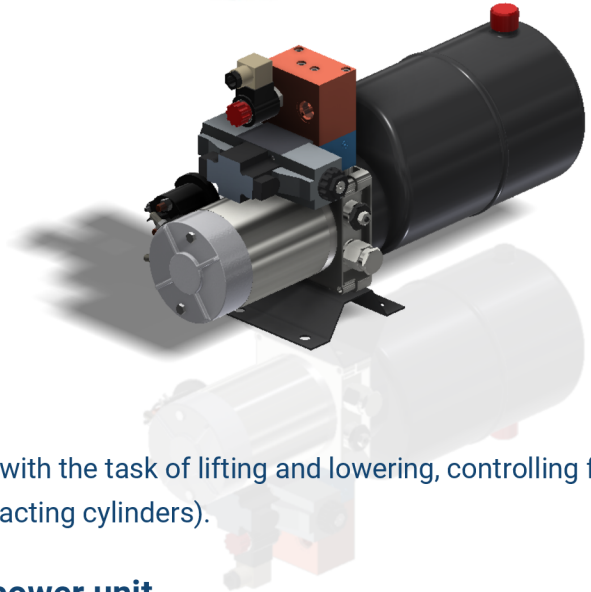
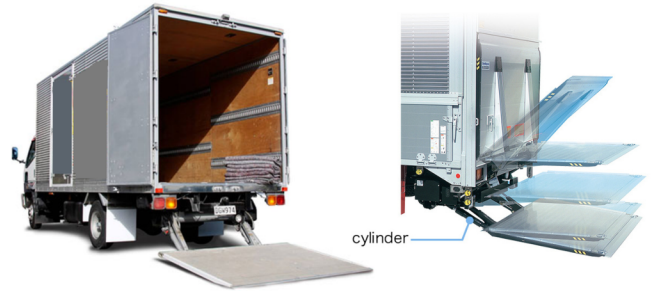
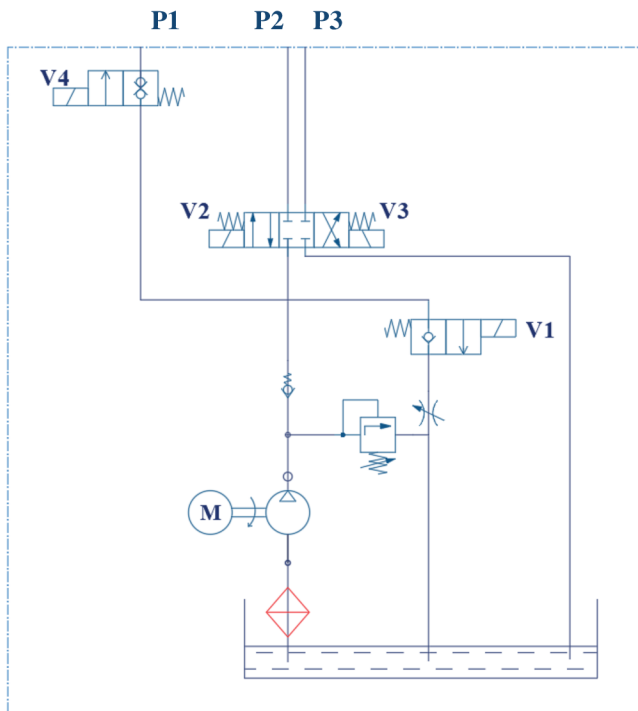
Application: used for hydraulic transmission systems with lifting and lowering tasks, controlling one or two single-acting cylinders.

### ★ VHMPU MDC12/1.6(24/2.2)-B02-CBK2.1(2.5)-T06(08)



Application: used for hydraulic transmission systems with lifting and lowering tasks, controlling four single-acting cylinders.

## ★ VHMPU MDC12/1.6(24/2.2)-B03-CBK2.1(2.5)-T06(08)



Application: used for hydraulic transmission systems with the task of lifting and lowering, controlling four cylinders (two single-acting cylinders and two double-acting cylinders).

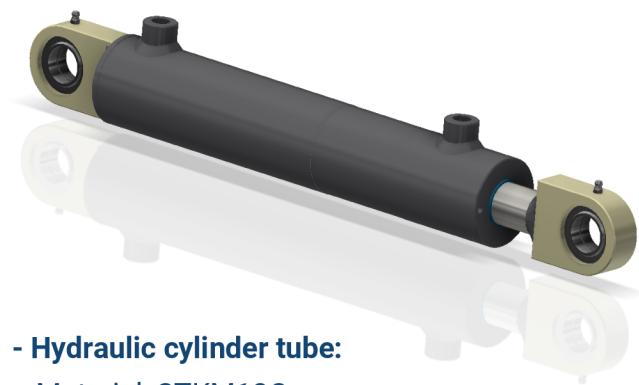
### Basic parameters of Gaudent-Vietha mini power unit

- Voltage: 12V or 24V.
- Pump flow: 2.1cc/rev or 2.5cc/rev.
- Setting pressure: 180 bar.
- Oil tank capacity: 6 liters or 8 liters.

### Note when using Gaudent-Vietha hydraulic mini power unit

- Operating Duty Cycle: S3 (2 min on / 8 min off).
- Clean all relevant hydraulic equipment before mounting on the power supply.
- The viscosity of hydraulic oil is from 15 to 68cst, the oil is clean and contaminant-free. It is generally recommended to use hydraulic oil with viscosity at 46cst.
- Check the oil level in the oil tank after the first oil operation.
- It is necessary to change the hydraulic oil after 1000 times since the first operation, the subsequent changes are 3000 working hours apart.

## Hydraulic cylinder overview



### - Hydraulic cylinder tube:

- + Material: STKM13C.
- + Tolerance: H7 - H8, surface roughness:  $Ra \leq 0,4\mu\text{m}$ .
- + Range of inner diameter:  $\varnothing 40\text{mm} - \varnothing 350\text{mm}$ .
- + Tensile strength:  $520 \text{ N/mm}^2$ .

### - Hydraulic cylinder rod:

- + Material: S45C.
- + Tolerance: f7 - f8, surface roughness:  $Ra \leq 0,2\mu\text{m}$ .
- + Cylinder rod diameter range:  $\varnothing 18\text{mm} - \varnothing 250\text{mm}$ .
- + Tensile strength:  $340 - 517 \text{ N/mm}^2$ .
- + Surface hardness  $\geq \text{HV } 850$ .

### - Piston:

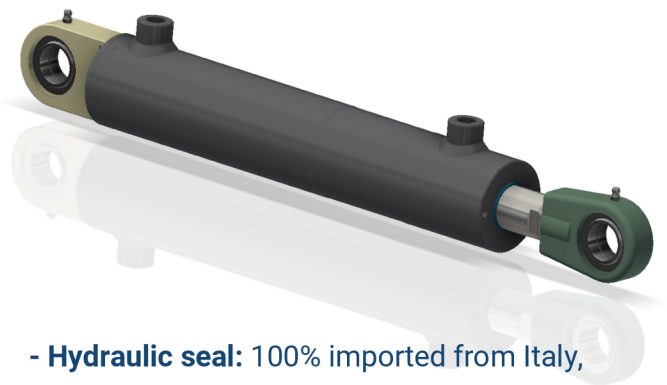
- + Material: C45 steel
- + Manufactured entirely by CNC process under strict supervision ensuring high precision.

### - Head cap:

- + Material: Cast iron
- + The manufacture process is supervised and manufactured entirely by CNC, very high accuracy.

### - Connection Port:

- + Material: C45 steel
- + Machining to inch and metric thread standards



- **Hydraulic seal:** 100% imported from Italy, selected for specific applications and working conditions.

- **Max working pressure:** 210 bar (Gaudent-Vietha can produce cylinders with higher working pressure than standard for each specific case).

- **Test pressure:** 315 - 350 bar (Gaudent-Vietha test pressure higher than standard with special cylinder type).

- **Working temperature:**  $-20^{\circ}\text{C}$  to  $80^{\circ}\text{C}$  (can reach from  $-20^{\circ}\text{C}$  to  $200^{\circ}\text{C}$  with special cylinders, designed and manufactured according to customer requirements).

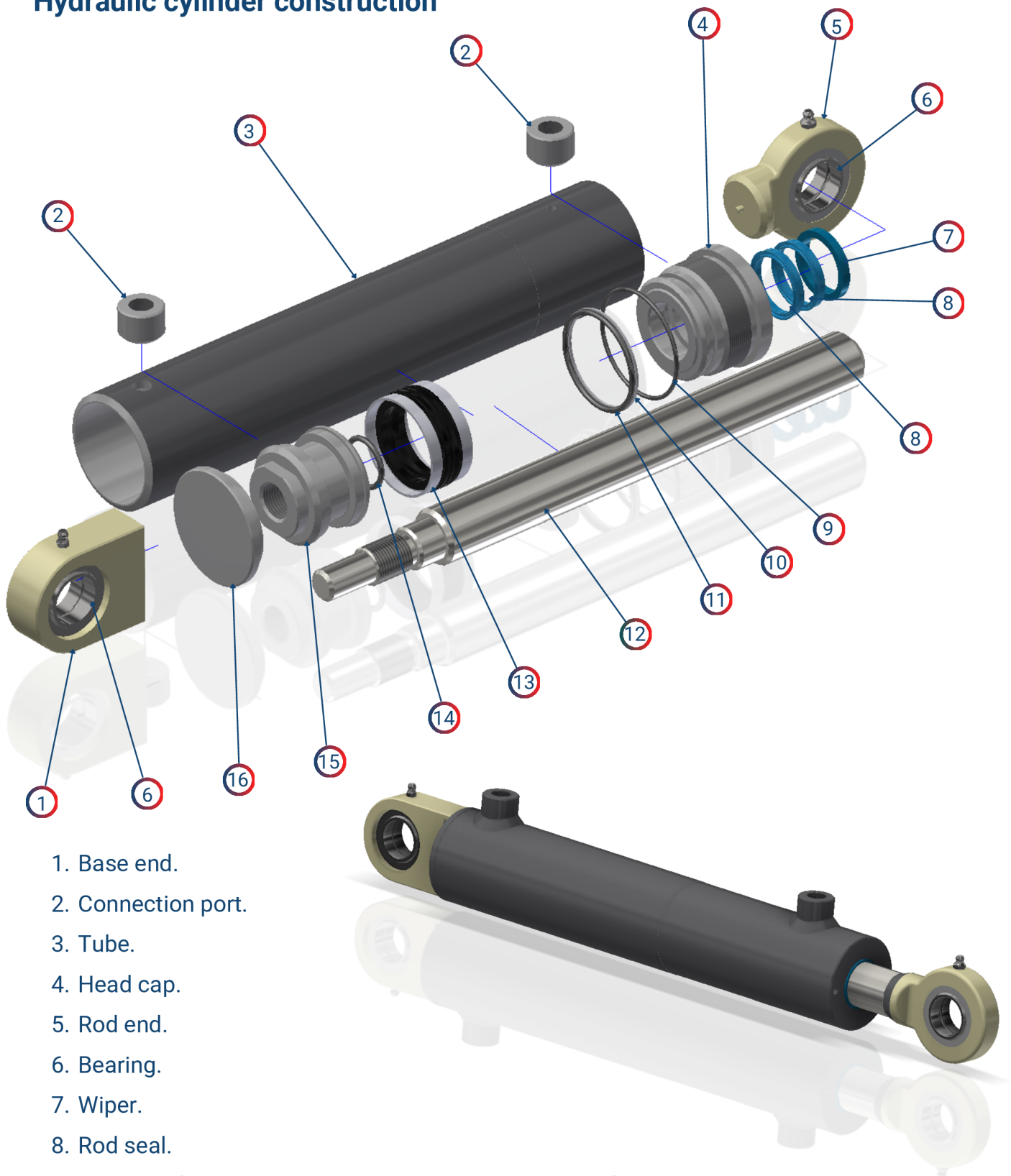
- **Viscosity:**  $2,8 - 380 \text{ mm}^2/\text{s}$ .

- **Speed:** Maximum 0.5 m/s (can reach speed up to 15 m/s for special cylinders, calculated design and manufacture).

### - Inspection and acceptance of factory:

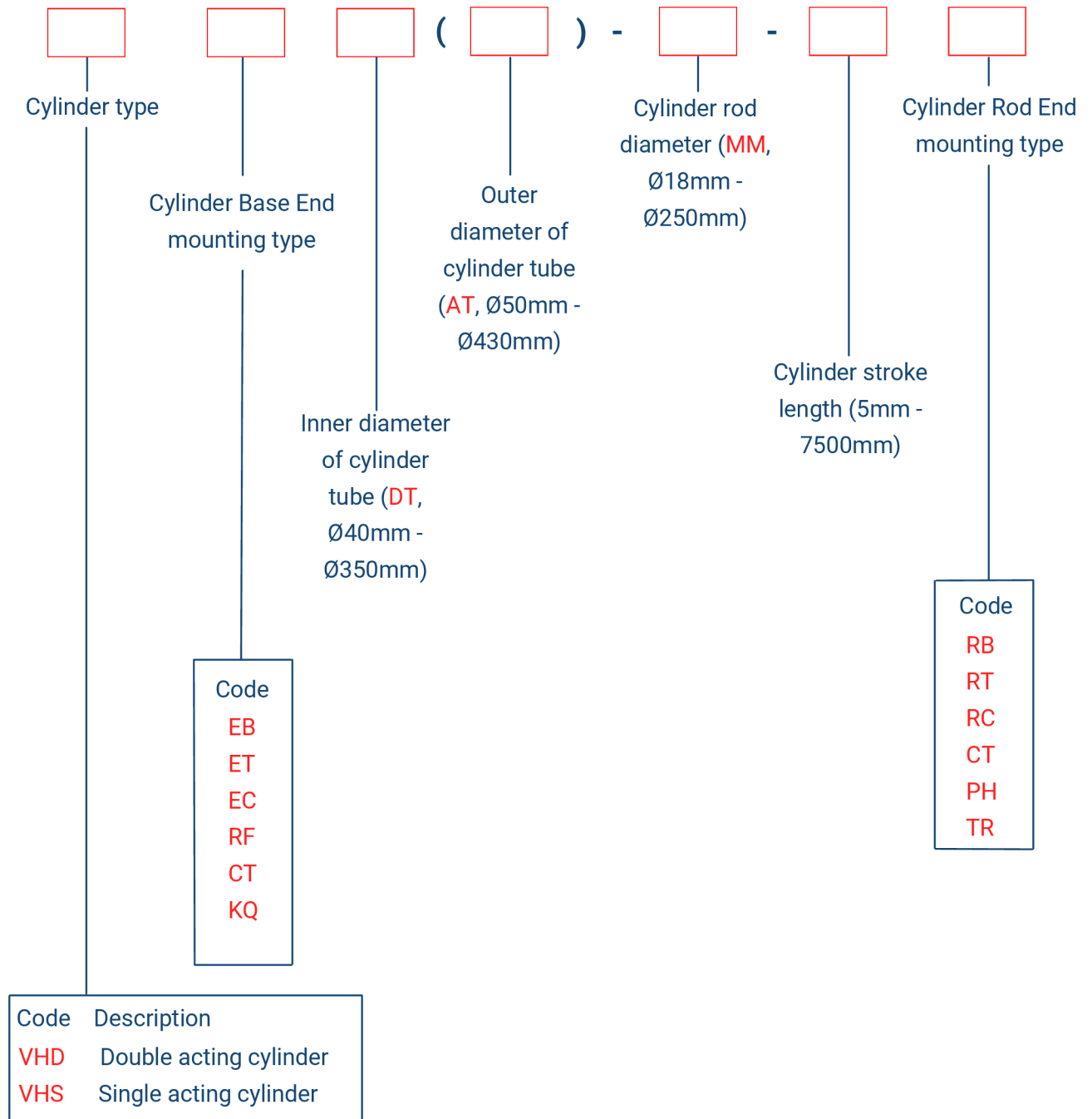
- + Every cylinder undergoes rigorous testing according to Gaudent-Vietha quality standards.
- + Cylinders are passed when the dimensions satisfy the drawings and pass the standard built-in testing procedures.

## Hydraulic cylinder construction



- |                     |                  |
|---------------------|------------------|
| 1. Base end.        |                  |
| 2. Connection port. |                  |
| 3. Tube.            |                  |
| 4. Head cap.        |                  |
| 5. Rod end.         |                  |
| 6. Bearing.         |                  |
| 7. Wiper.           |                  |
| 8. Rod seal.        |                  |
| 9. Static seal.     |                  |
| 10. Static seal.    |                  |
| 11. Static seal.    |                  |
| 12. Rod.            |                  |
|                     | 13. Piston seal. |
|                     | 14. Static seal. |
|                     | 15. Piston.      |
|                     | 16. End cap.     |

## Product code for hydraulic cylinder Gaudent-Vietha



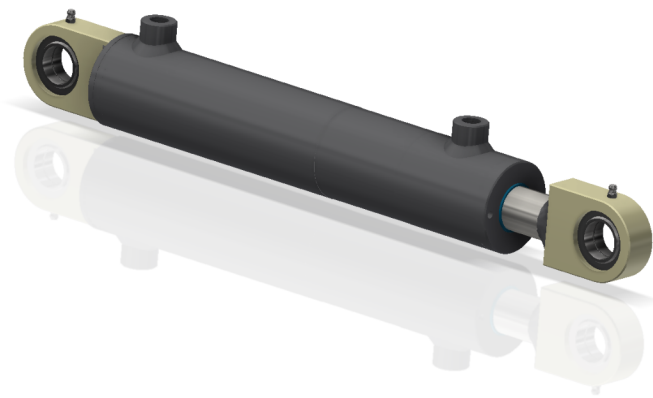
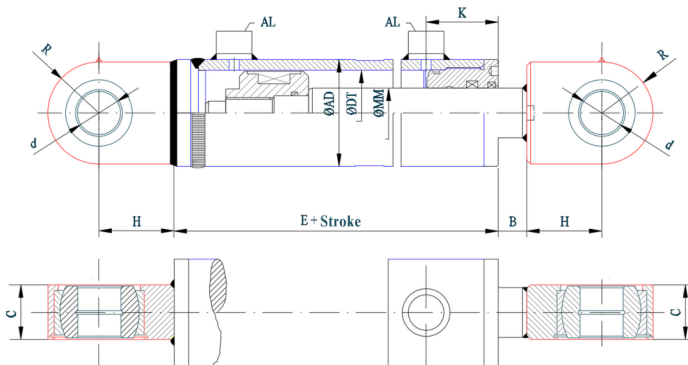
### Ex.:

- Hydraulic cylinder code: VHD EB 80(92)-45-500 RB
- Hydraulic cylinder code: VHD EC 60(75)-35-260 RC
- Hydraulic cylinder code: VHD KQ 90(105)-45-2500 CT
- Hydraulic cylinder code: VHD CT 160(180)-100-1800 TR
- Hydraulic cylinder code: VHS ET 50(60)-30-150 PH

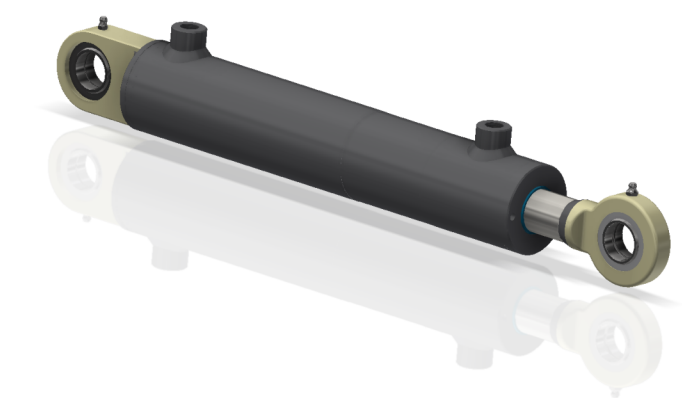
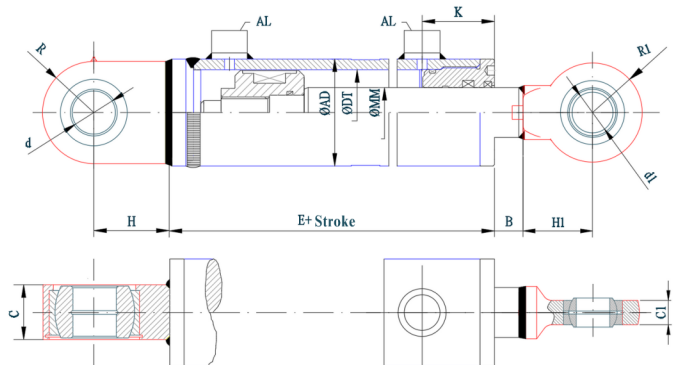
**Note:** DT, AT, and MM are looked up according to the Gaudent-Vietha standard cylinder size data sheet presented on pages 13 and 14. With large cylinders or cylinders requiring a different size please contact Gaudent-Vietha to receive the most optimal and dedicated advice.

## Standard cylinder types Gaudent-Vietha

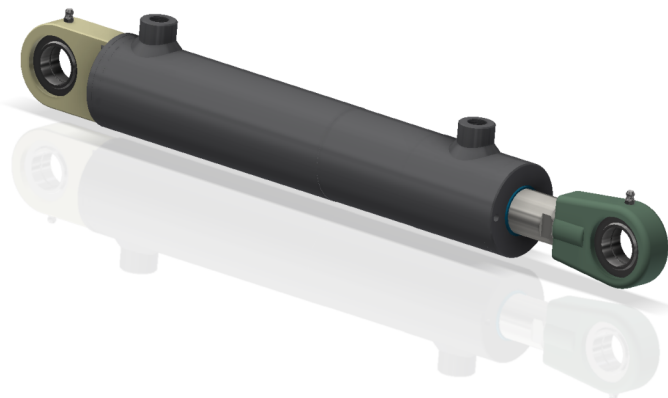
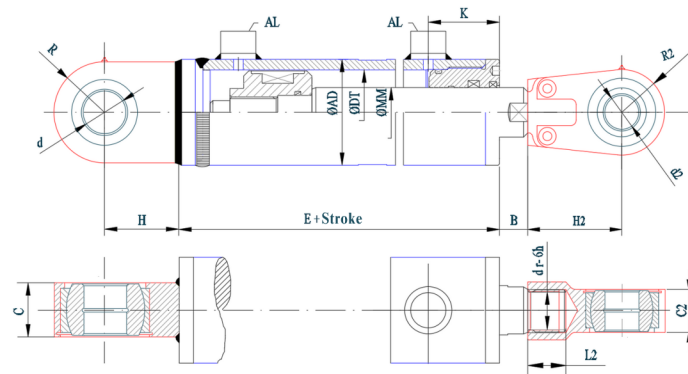
### ★ Type EB - RB (Rod end GF-GF)



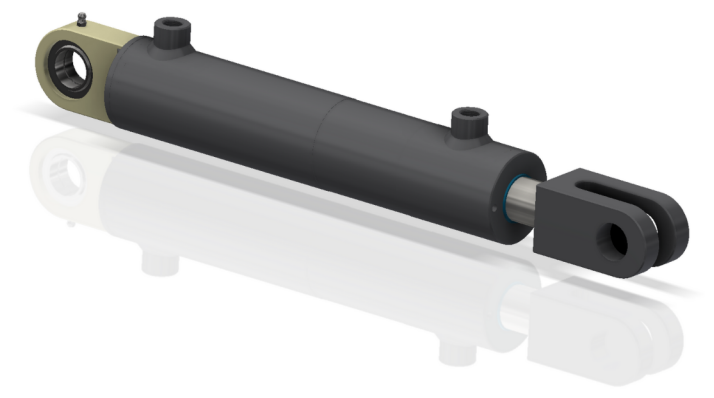
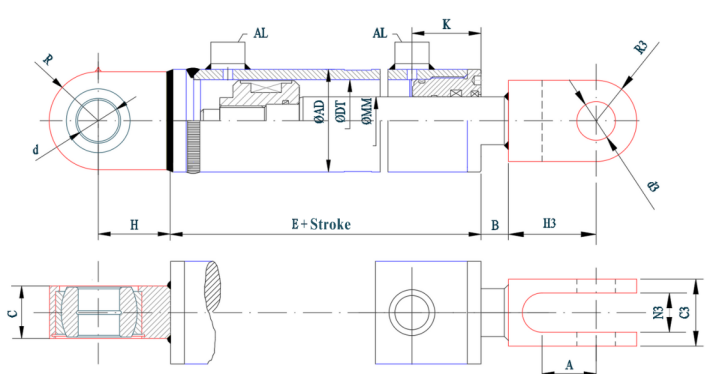
### ★ Type EB - RB (Rod end GF-GK)



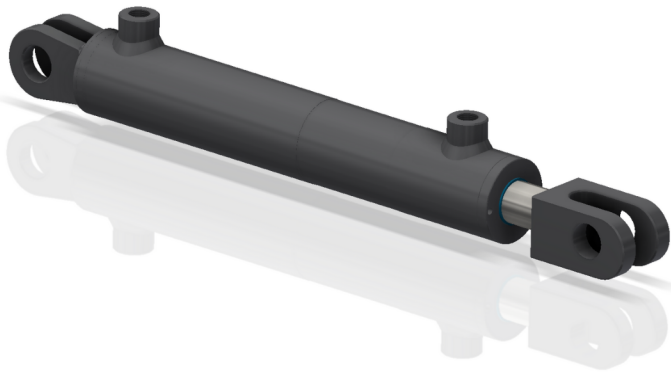
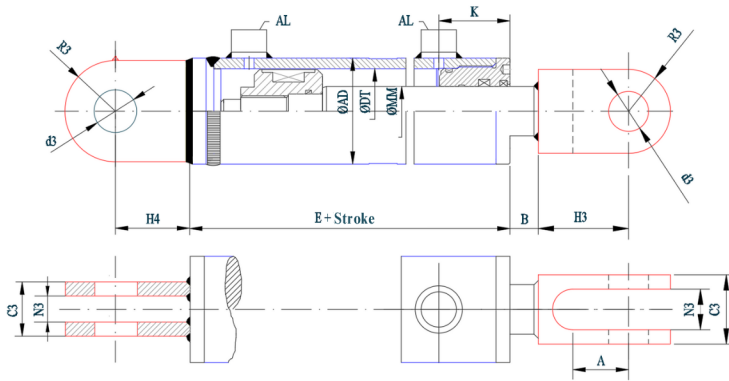
### ★ Type EB - RB (Rod end GF-GIHR)



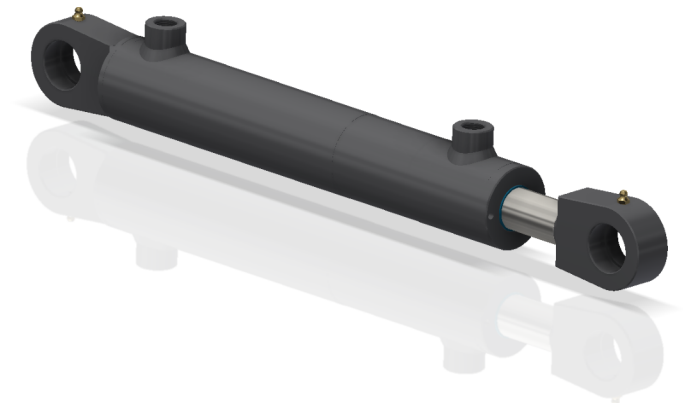
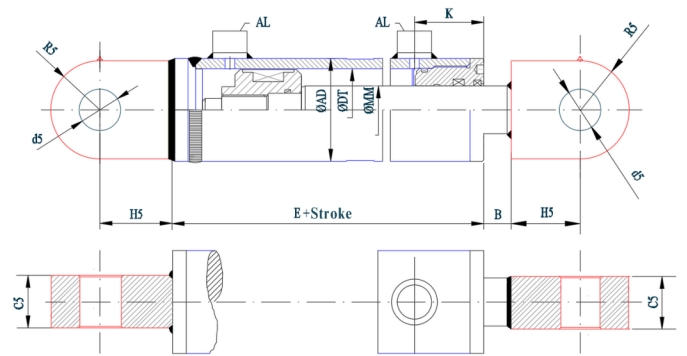
### ★ Type EB - RC (Rod end GF)



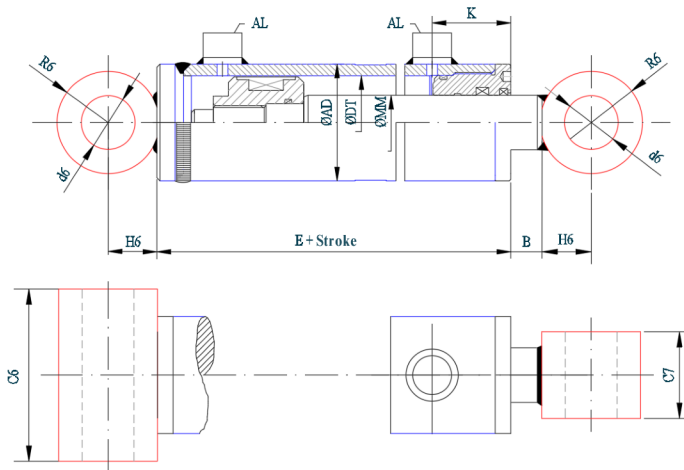
★ **Type EC - RC**



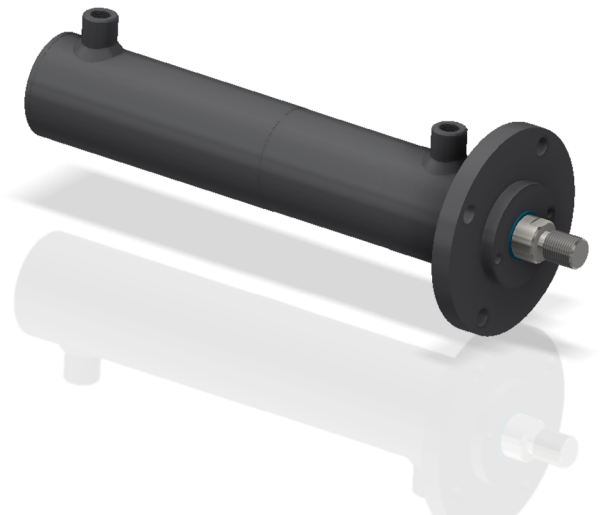
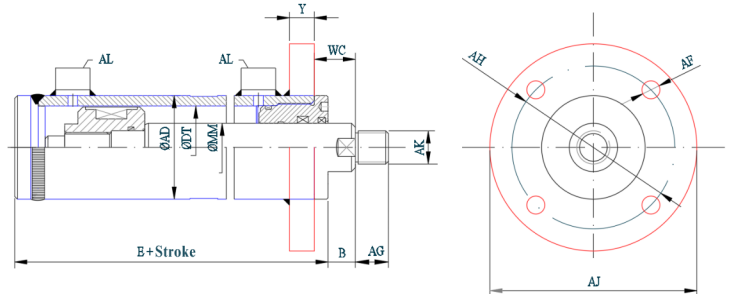
★ **Type ET - RT**



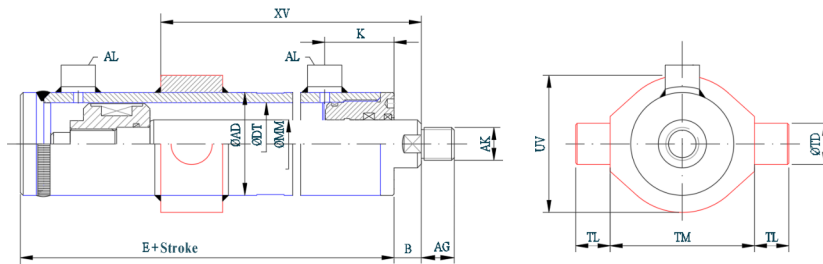
★ **Type CT - CT**



★ **Type RF - TR**



★ **Type KQ - TR**



### Standard hydraulic cylinder size parameter table

AD (mm)	50	60	75 70	73	85 82	95 92	105	120 115	125	145 140	152 140	168 160	180 170	190 180
DT (mm)	40	50	60	63	70	80	90	100	110	120	125	140	150	160
MM (mm)	20	25	30	30	35	40	40	50	50	60	60	70	80	80
	25	30	35	35	40	45	45	60	60	70	70	80	90	90
		35	40	40	45	50	50	70	70	80	80	90	100	100
				45	50	55	60	70			90	100		110
A	20	25	25	25	25	40	40	50	50	50	50	70	80	80
AF	11	13	13	13	15	15	15	17	21	21	21	25	32	32
AG	18	24	24	24	30	36	36	42	48	56	56	56	64	64
		30	30	30	36	42	42	48	56		64	64	75	75
							48	56				75		
AH	90	100	115	115	140	140	150	160	200	210	210	220	260	265
AJ	110	130	145	145	170	170	195	210	245	250	250	280	320	340
AK	M18x1.5	M24x2			M30x2	M36x3	M36x3	M42x3	M48x3	M56x3	M56x3	M56x3	M64x3	M64x3
		M30x2			M36x3	M42x3	M42x3	M48x3	M56x3		M64x3	M64x3	M75x3	M75x3
							M48x3	M56x3				M75x3		
							M56x3							
AL	1/4" NPT	3/8" NPT					1/2" NPT			3/4" NPT				
B	20	20	20	20	20	20	20	20	20	25	25	25	25	25
C	19	23	28	28	30	30	35	40	40	40	60	65	70	70
C1	13	17	19	19	21	21	23	27	30	30				
C2	19	23	28	28	30	30	35	35	40	40	40	55	60	60
C3	35	50	50	50	50	60	60	80	80	80	80	105	110	120
C5	20	25	30	30	35	35	40	45	50	50	60	60	75	75
C6	60	70	80	80	90	105	115	125	140	150	155	170	180	190
C7	35	40	50	50	55	60	70	80	90	95	100	120	130	140
d	20	25	30	30	35	35	40	45	50	50	60	70	80	80
d1	20	25	30	30	35	35	40	45	50	50				
d2	20	25	30	30	35	35	40	40	50	50	60	70	80	80
d3	20	25	25	25	25	40	40	50	50	50	50	70	80	80
d5	20	25	30	30	30	35	40	40	50	50	60	70	80	80
d6	20	25	30	30	35	35	40	45	50	55	60	70	80	80

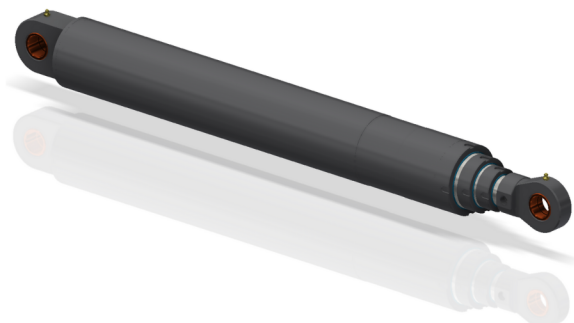
AD (mm)	50	60	75	73	85	95	105	120	125	145	152	168	180	190
DT (mm)	40	50	60	63	70	80	90	100	110	120	125	140	150	160
MM (mm)	20	25	30	30	35	40	40	50	50	60	60	70	80	80
	25	30	35	35	40	45	45	60	60	70	70	80	90	90
		35	40	40	45	50	50	70	70	80	80	90	100	100
				45	50	55	60	70			90	100		110
dr	M16x1.5		M22x1.5		M28x1.5		M35x1.5		M45x1.5		M58x1.5	M65x1.5	M80x2	
E	123	126	137	137	147	160	160	202	209	219	229	234	247	247
H	38	45	51	51	61	61	69	77	88	88	100	115	140	140
H1	38	45	51	51	61	61	69	77	88	88				
H2	50	50	60	60	70	70	85	85	105	105	130	150	170	170
H3	50	60	60	60	60	80	80	100	100	100	100	145	145	165
H4	35	50	50	50	50	50	50	65	65	65	65	95	105	115
H5	35	40	45	45	50	55	55	70	70	75	80	95	105	115
H6	19	23	28	28	33	33	38	43	48	53	63	68	78	78
K	40	43	50	50	50	60	60	82	82	82	92	92	105	105
L2	16	16	22	22	28	28	35	35	45	45	58	65	80	80
N3	15	26	26	26	26	30	30	40	40	40	40	55	60	70
R	25	27.5	32.5	32.5	41.5	41.5	50	55	61.5	61.5	70	85	90	90
R1	26.5	32	36.5	36.5	41	41	46	51	56	56				
R2	28	28	32	32	39	39	47	47	58	58	65	77	88	88
R3	20	30	30	30	30	40	40	50	50	50	50	70	80	80
R5	22.5	25	30	30	35	35	40	45	50	50	60	70	80	80
R6	20	24	29	29	34	34	39	44	49	54	64	69	79	79
TD	20	25	30	30	40	40	45	45	50	50	50	60	70	70
TL	16	20	25	25	35	35	40	45	50	50	50	55	55	65
TM	70	82	105	105	135	135	145	175	175	200	210	220	260	280
TN	28	35	45	45	50	50	60	60	65	65	65	65	75	80
UV	65	80	100	100	125	125	135	160	160	180	190	200	230	250
WC	28	28	30	30	30	30	30	32	32	37	37	37	37	37
XV (Min)	125	145	160	160	170	170	190	220	230	245	250	250	275	280
Y	11	14	17	17	19	19	21	24	29	29	29	34	34	34

**Note:**

- Customers can combine different Base End and Rod End mounting styles, as shown in the table, to create a customized cylinder configuration (eg: EB - CT; EC - RT; KQ - RB; ...).
- The blank space in the table indicates the size that we do not produce, please change to other size that we have.
- Customers who have need special sizing and customized types (**like the cylinders on page 15**) please contact Gaudent-Vietha directly via hotline **+84-989685364**.

## Some special cylinders Gaudent-Vietha produce

### Telescopic cylinder



- Gaudent-Vietha manufacture 2-stage, 3-stage or 4-stage cylinders with tube size, rod size, head cap type and outer dimensions suit the specific working conditions of this type of cylinder.

### Cylinder for excavator



Gaudent-Vietha calculate the design, use specialized seals, and put them into production of cylinders with integrated cushioning, ideal for high-intensity applications requiring shock absorption.

### Hydraulic damper



- Cylinders for applications requiring impact reduction at full stroke length.

### Compound hydraulic cylinder



### Bolted hydraulic cylinder



### Double-ended hydraulic cylinder



## Gaudent-Vietha Mechanical Factory and products

Gaudent-Vietha Mechanical Factory



Tube, rod



Welding robot



CNC machine



NC machine



Gaudent-Vietha hydraulic power unit

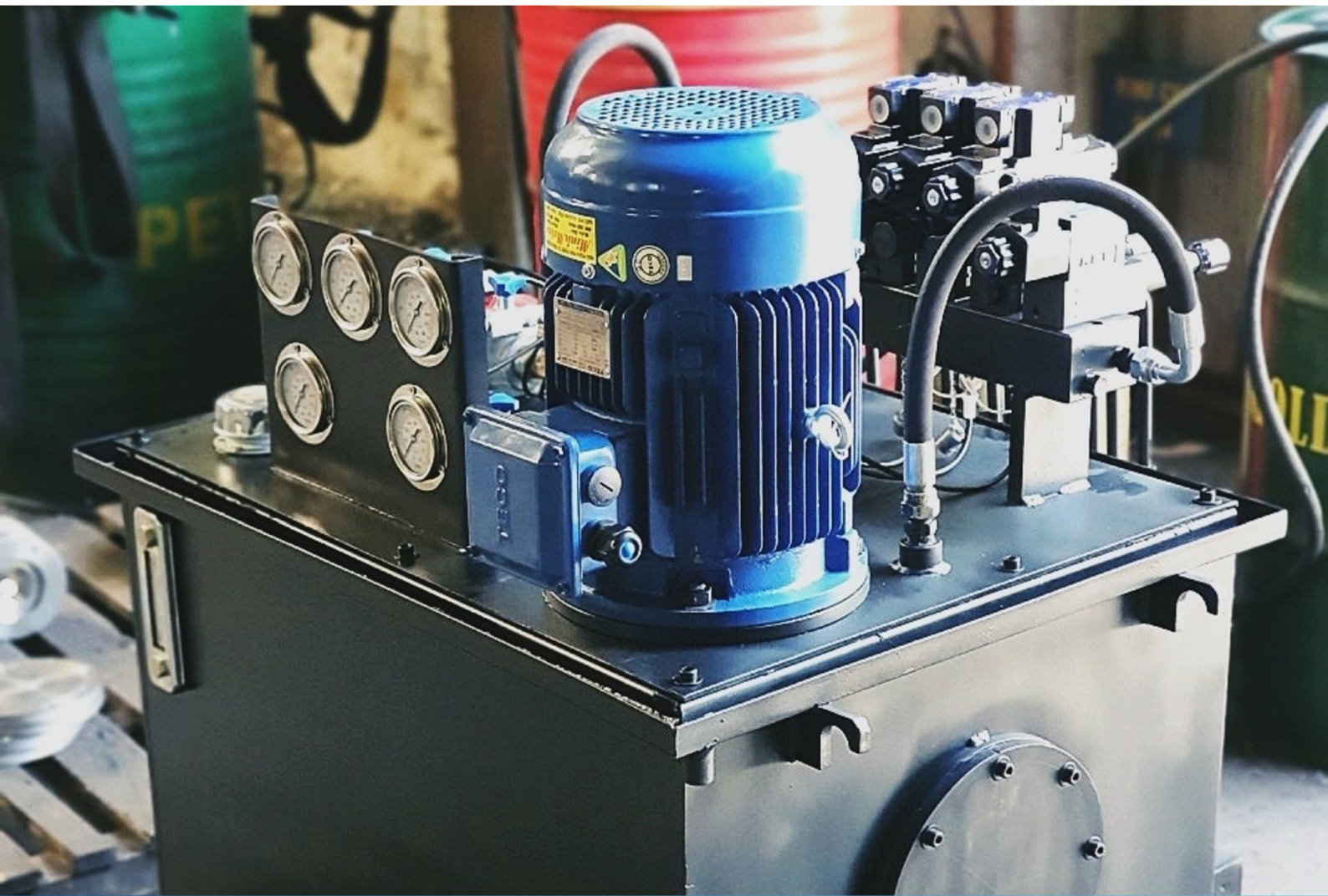


Gaudent-Vietha mini power unit



Gaudent-Vietha cylinder





**HEAD OFFICE & FACTORY:**

GAUDENT- VIETHA MECHANICAL

Add.: D2 Street, Zone D, Pho Noi A Industrial Park, Nhu Quynh Commune, Hung Yen Province, Vietnam.

**PHONE:**

+84 903 405 093

+84 989 685 364

**EMAIL:**

hoa@vietha.com.vn

my.nguyen@vietha.com.vn

**WEBSITE:**

[www.gvhydraulics.com](http://www.gvhydraulics.com)

