

**The main features of the XV-0M are the following:**

Displacements from 0.45 cm<sup>3</sup> / revolution to 2.28 cm<sup>3</sup>/revolution.

Maximum pressures up to **280 bar**.

Versions w/ flanges: Ø22 – Standard;

Ø22 BH – Sagomata;

Ø22 HY – Sagomata.

Rotation speeds up to **9000 rpm**.

Configurations with inlet and outlet in the body, flange and cover.

Available shafts: Cylindrical with Woodruff key;

Milled shank;

Tapered 1:8 Woodruff key.

A version with internal drainage is also available.

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**The main features of the XV-1M are the following:**

Displacements from 0.91 cm<sup>3</sup> / revolution to 9.88 cm<sup>3</sup>/ revolution.

Maximum pressures up to **300 bar**.

Versions w/ flanges: Ø25.4 – Standard European;

Ø30 – Standard;

Ø32 BH – Body-Shaped;

Ø32 HY – Body-Shaped;

Ø32 BH – Standard German – Body-Shaped;

Ø50.8 – SAE AA

Rotation speeds up to **6000 rpm**

Configurations with inlet and outlet in the body, flange and cover.

Available shafts: Tapered 1:8 Woodruff key;

Parallel with key;

Milled shank;

Splined.

A version with internal drainage is also available.

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**The main features of the XV-2M are the following:**

Displacements from 4.2 cm<sup>3</sup> / revolution a 39.6 cm<sup>3</sup>/ revolution.

Maximum pressures up to **300 bar**.

Versions w/ flanges: Ø36,5 – Standard Europea;

Ø50 BH – Body-Shaped;

Ø50 HY – Body-Shaped;

Ø52 BH - Standard German – Body-Shaped;

Ø80 – Standard German;

Ø82,5 – SAE A.

Rotation speeds up to **3500 rpm**

Configurations with inlet and outlet in the body, flange and cover.

Available shafts: Tapered 1:8 Woodruff key;

Parallel with key;

Milled shank;

Splined.

A version with internal drainage is also available.

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**The main features of the XV-3M are the following:**

Displacements from 14.89 cm<sup>3</sup> / revolution to 86.87cm<sup>3</sup>/ revolution.

Maximum pressures up to **320 bar**.

Versions w/ flanges: Ø50,8 – Standard European;

Rotation speeds up to **3000 rpm**.

Available shafts: Tapered 1:8 Woodruff key;

Parallel with key;

Splined.

A version with internal drainage is also available.

**Summary: Displacements - Torque - Power - Pressures - Speeds**

|              | TYPE                       | Displacement               | Torque               | Power    | Max Inlet Pressure | Max Drain Pressure | Min Starting Pressure | Min Speed    | Max Speed    |
|--------------|----------------------------|----------------------------|----------------------|----------|--------------------|--------------------|-----------------------|--------------|--------------|
|              |                            |                            | 1000 rev/min 100 bar |          |                    |                    |                       |              |              |
| <b>XV-0M</b> | XV-0M/0.45                 | 0.45 cm <sup>3</sup> /rev  | 0,61 Nm              | 0,06 KW  | 280 bar            | 1 bar              | 25 bar                | 700 rev/min  | 9000 rev/min |
|              | XV-0M/0.57                 | 0.56 cm <sup>3</sup> /rev  | 0,76 Nm              | 0,08 KW  | 280 bar            | 1 bar              | 25 bar                | 700 rev/min  | 9000 rev/min |
|              | XV-0M/0.76                 | 0.75 cm <sup>3</sup> /rev  | 1,01 Nm              | 0,11 KW  | 280 bar            | 1 bar              | 25 bar                | 700 rev/min  | 9000 rev/min |
|              | XV-0M/0.98                 | 0.92 cm <sup>3</sup> /rev  | 1,24 Nm              | 0,13 KW  | 280 bar            | 1 bar              | 20 bar                | 700 rev/min  | 6000 rev/min |
|              | XV-0M/1.27                 | 1.26 cm <sup>3</sup> /rev  | 1,70 Nm              | 0,18 KW  | 280 bar            | 1 bar              | 15 bar                | 700 rev/min  | 6000 rev/min |
|              | XV-0M/1.52                 | 1.48 cm <sup>3</sup> /rev  | 2,00 Nm              | 0,21 KW  | 280 bar            | 1 bar              | 10 bar                | 700 rev/min  | 6000 rev/min |
|              | XV-0M/2.30                 | 2.28 cm <sup>3</sup> /rev  | 3,08 Nm              | 0,32 KW  | 210 bar            | 1 bar              | 10 bar                | 700 rev/min  | 5000 rev/min |
| <b>XV-1M</b> | XV-1M/0.9                  | 0.91 cm <sup>3</sup> /rev  | 1,23 Nm              | 0,13 KW  | 280 bar            | 6 bar              | 30 bar                | 700 rev/min  | 6000 rev/min |
|              | XV-1M/1.2                  | 1.17 cm <sup>3</sup> /rev  | 1,58 Nm              | 0,17 KW  | 290 bar            | 6 bar              | 30 bar                | 700 rev/min  | 6000 rev/min |
|              | XV-1M/1.7                  | 1.56 cm <sup>3</sup> /rev  | 2,11 Nm              | 0,22 KW  | 290 bar            | 6 bar              | 30 bar                | 700 rev/min  | 6000 rev/min |
|              | XV-1M/2.2                  | 2.08 cm <sup>3</sup> /rev  | 2,81 Nm              | 0,29 KW  | 290 bar            | 6 bar              | 25 bar                | 700 rev/min  | 6000 rev/min |
|              | XV-1M/2.6                  | 2.60 cm <sup>3</sup> /rev  | 3,52 Nm              | 0,37 KW  | 300 bar            | 6 bar              | 20 bar                | 700 rev/min  | 6000 rev/min |
|              | XV-1M/3.2                  | 3.12 cm <sup>3</sup> /rev  | 4,22 Nm              | 0,44 KW  | 300 bar            | 6 bar              | 15 bar                | 700 rev/min  | 6000 rev/min |
|              | XV-1M/3.8                  | 3.64 cm <sup>3</sup> /rev  | 4,92 Nm              | 0,52 KW  | 300 bar            | 6 bar              | 15 bar                | 700 rev/min  | 6000 rev/min |
|              | XV-1M/4.3                  | 4.16 cm <sup>3</sup> /rev  | 5,63 Nm              | 0,59 KW  | 300 bar            | 6 bar              | 15 bar                | 700 rev/min  | 6000 rev/min |
|              | XV-1M/4.9                  | 4.94 cm <sup>3</sup> /rev  | 6,68 Nm              | 0,70 KW  | 300 bar            | 6 bar              | 15 bar                | 700 rev/min  | 6000 rev/min |
|              | XV-1M/5.9                  | 5.85 cm <sup>3</sup> /rev  | 7,91 Nm              | 0,83 KW  | 300 bar            | 6 bar              | 15 bar                | 700 rev/min  | 5000 rev/min |
|              | XV-1M/6.5                  | 6.50 cm <sup>3</sup> /rev  | 8,79 Nm              | 0,92 KW  | 300 bar            | 6 bar              | 10 bar                | 700 rev/min  | 5000 rev/min |
|              | XV-1M/7.8                  | 7.54 cm <sup>3</sup> /rev  | 10,20 Nm             | 1,07 KW  | 260 bar            | 6 bar              | 10 bar                | 700 rev/min  | 5000 rev/min |
|              | XV-1M/9.8                  | 9.88 cm <sup>3</sup> /rev  | 13,37 Nm             | 1,40 KW  | 230 bar            | 6 bar              | 10 bar                | 700 rev/min  | 4000 rev/min |
| <b>XV-2M</b> | XV-2M/4                    | 4.2 cm <sup>3</sup> /rev   | 5,68 Nm              | 0,60 KW  | 300 bar            | 6 bar              | 30 bar                | 700 rev/min  | 3500 rev/min |
|              | XV-2M/6                    | 6.0 cm <sup>3</sup> /rev   | 8,12 Nm              | 0,85 KW  | 300 bar            | 6 bar              | 25 bar                | 700 rev/min  | 3500 rev/min |
|              | XV-2M/9                    | 8.4 cm <sup>3</sup> /rev   | 11,36 Nm             | 1,19 KW  | 300 bar            | 6 bar              | 20 bar                | 700 rev/min  | 3500 rev/min |
|              | XV-2M/11                   | 10.8 cm <sup>3</sup> /rev  | 14,61 Nm             | 1,53 KW  | 300 bar            | 6 bar              | 20 bar                | 700 rev/min  | 3500 rev/min |
|              | XV-2M/14                   | 14.4 cm <sup>3</sup> /rev  | 19,48 Nm             | 2,04 KW  | 290 bar            | 6 bar              | 15 bar                | 700 rev/min  | 3500 rev/min |
|              | XV-2M/17                   | 16.8 cm <sup>3</sup> /rev  | 22,73 Nm             | 2,38 KW  | 270 bar            | 6 bar              | 15 bar                | 700 rev/min  | 3500 rev/min |
|              | XV-2M/19                   | 19.2 cm <sup>3</sup> /rev  | 25,97 Nm             | 2,72 KW  | 250 bar            | 6 bar              | 15 bar                | 700 rev/min  | 3000 rev/min |
|              | XV-2M/22                   | 22.8 cm <sup>3</sup> /rev  | 30,84 Nm             | 3,23 KW  | 240 bar            | 6 bar              | 15 bar                | 700 rev/min  | 3000 rev/min |
|              | XV-2M/26                   | 26.2 cm <sup>3</sup> /rev  | 35,44 Nm             | 3,71 KW  | 210 bar            | 6 bar              | 15 bar                | 700 rev/min  | 3000 rev/min |
|              | XV-2M/30                   | 30.0 cm <sup>3</sup> /rev  | 40,58 Nm             | 4,25 KW  | 200 bar            | 6 bar              | 15 bar                | 700 rev/min  | 2500 rev/min |
|              | XV-2M/34                   | 34.2 cm <sup>3</sup> /rev  | 46,27 Nm             | 4,85 KW  | 190 bar            | 6 bar              | 15 bar                | 700 rev/min  | 2500 rev/min |
| XV-2M/40     | 39.6 cm <sup>3</sup> /rev  | 53,57 Nm                   | 5,61 KW              | 180 bar  | 6 bar              | 15 bar             | 700 rev/min           | 2000 rev/min |              |
| <b>XV-3M</b> | XV-3M/15                   | 14.89 cm <sup>3</sup> /rev | 20,14 Nm             | 2,11 KW  | 320 bar            | 6 bar              | 20 bar                | 700 rev/min  | 3000 rev/min |
|              | XV-3M/18                   | 17.37 cm <sup>3</sup> /rev | 23,50 Nm             | 2,46 KW  | 320 bar            | 6 bar              | 20 bar                | 700 rev/min  | 3000 rev/min |
|              | XV-3M/21                   | 21.10 cm <sup>3</sup> /rev | 28,54 Nm             | 2,99 KW  | 300 bar            | 6 bar              | 15 bar                | 700 rev/min  | 3000 rev/min |
|              | XV-3M/27                   | 26.97 cm <sup>3</sup> /rev | 36,49 Nm             | 3,82 KW  | 270 bar            | 6 bar              | 10 bar                | 700 rev/min  | 3000 rev/min |
|              | XV-3M/32                   | 32.27 cm <sup>3</sup> /rev | 43,66 Nm             | 4,57 KW  | 270 bar            | 6 bar              | 10 bar                | 700 rev/min  | 3000 rev/min |
|              | XV-3M/38                   | 38.47 cm <sup>3</sup> /rev | 52,04 Nm             | 5,45 KW  | 270 bar            | 6 bar              | 10 bar                | 700 rev/min  | 2800 rev/min |
|              | XV-3M/43                   | 43.44 cm <sup>3</sup> /rev | 58,77 Nm             | 6,15 KW  | 250 bar            | 6 bar              | 10 bar                | 700 rev/min  | 2800 rev/min |
|              | XV-3M/47                   | 47.16 cm <sup>3</sup> /rev | 63,80 Nm             | 6,68 KW  | 250 bar            | 6 bar              | 10 bar                | 700 rev/min  | 2800 rev/min |
|              | XV-3M/51                   | 50.88 cm <sup>3</sup> /rev | 68,83 Nm             | 7,21 KW  | 250 bar            | 6 bar              | 10 bar                | 700 rev/min  | 2800 rev/min |
|              | XV-3M/54                   | 54.60 cm <sup>3</sup> /rev | 73,86 Nm             | 7,74 KW  | 250 bar            | 6 bar              | 10 bar                | 700 rev/min  | 2300 rev/min |
|              | XV-3M/61                   | 60.81 cm <sup>3</sup> /rev | 82,26 Nm             | 8,61 KW  | 220 bar            | 6 bar              | 10 bar                | 700 rev/min  | 2300 rev/min |
|              | XV-3M/64                   | 64.53 cm <sup>3</sup> /rev | 87,30 Nm             | 9,14 KW  | 220 bar            | 6 bar              | 10 bar                | 700 rev/min  | 2300 rev/min |
|              | XV-3M/70                   | 70.74 cm <sup>3</sup> /rev | 95,70 Nm             | 10,02 KW | 210 bar            | 6 bar              | 10 bar                | 700 rev/min  | 2300 rev/min |
|              | XV-3M/74                   | 74.46 cm <sup>3</sup> /rev | 100,73 Nm            | 10,55 KW | 190 bar            | 6 bar              | 10 bar                | 700 rev/min  | 2300 rev/min |
| XV-3M/90     | 86.87 cm <sup>3</sup> /rev | 117,52 Nm                  | 12,31 KW             | 160 bar  | 6 bar              | 10 bar             | 700 rev/min           | 2300 rev/min |              |

**General technical data**

|  |   |
|--|---|
| Type of fluid to be used                 | Mineral-based hydraulic oil HLP HV (D IN 51524) |
| Minimum operating viscosity              | 10 mm <sup>2</sup> /s                           |
| Maximum operating viscosity              | 100 mm <sup>2</sup> /s                          |
| Maximum admissible viscosity at start-up | 1500 mm <sup>2</sup> /s                         |
| Recommended viscosity                    | 20 mm <sup>2</sup> /s - 100 mm <sup>2</sup> /s  |
| Ambient temperature                      | -20 °C - 60°C                                   |
| Fluid operating temperature              | -15°C - 80°C                                    |
| Recommended fluid operating temperature  | 30°C – 50° C                                    |
| For temperatures above 120°C             | Request FKM seals ( V iton)                     |
| Max. outlet fluid pressure (OUT)         | 0.3 - 0.5 bars (with internal drainage)         |
| Inlet fluid filtering (IN)               | 30 - 60 Microns                                 |
| Outlet fluid filtering (OUT)             | 10 - 25 Microns                                 |
| Max. inlet fluid speed (IN)              | 0.5 - 1.5 m/s                                   |
| Max. outlet fluid speed (OUT)            | 3.0 - 5.5m/s                                    |

**Flow rate tables**

| TYPE       | cm3/ rev | Flow rate l/min | rpm   |       |       |       |       |       |       |       |       |        |       |       |       | Flow rate l/min |       |                 |  |
|------------|----------|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-----------------|-------|-----------------|--|
|            |          |                 | 700   | 1000  | 1500  | 2000  | 2500  | 3000  | 3500  | 4000  | 4500  | 5000   | 5500  | 6000  | 7000  |                 | 8000  | 9000            |  |
| XV 0M/0.45 | 0,45     | Flow rate l/min | 0,299 | 0,428 | 0,641 | 0,855 | 1,069 | 1,283 | 1,496 | 1,710 | 1,924 | 2,138  | 2,351 | 2,565 | 2,993 | 3,420           | 3,848 | Flow rate l/min |  |
| XV 0M/0.57 | 0,56     |                 | 0,372 | 0,532 | 0,798 | 1,064 | 1,330 | 1,596 | 1,862 | 2,128 | 2,394 | 2,660  | 2,926 | 3,192 | 3,724 | 4,256           | 4,788 |                 |  |
| XV 0M/0.76 | 0,75     |                 | 0,499 | 0,713 | 1,069 | 1,425 | 1,781 | 2,138 | 2,494 | 2,850 | 3,206 | 3,563  | 3,919 | 4,275 | 4,988 | 5,700           | 6,413 |                 |  |
| XV 0M/0.98 | 0,92     |                 | 0,612 | 0,874 | 1,311 | 1,748 | 2,185 | 2,622 | 3,059 | 3,496 | 3,933 | 4,370  | 4,807 | 5,244 |       |                 |       |                 |  |
| XV 0M/1.27 | 1,26     |                 | 0,838 | 1,197 | 1,796 | 2,394 | 2,993 | 3,591 | 4,190 | 4,788 | 5,387 | 5,985  | 6,584 | 7,182 |       |                 |       |                 |  |
| XV 0M/1.52 | 1,48     |                 | 0,984 | 1,406 | 2,109 | 2,812 | 3,515 | 4,218 | 4,921 | 5,624 | 6,327 | 7,030  | 7,733 | 8,436 |       |                 |       |                 |  |
| XV 0M/2.30 | 2,28     |                 | 1,516 | 2,166 | 3,249 | 4,332 | 5,415 | 6,498 | 7,581 | 8,664 | 9,747 | 10,830 |       |       |       |                 |       |                 |  |

| TYPE      | cm3/ rev | Flow rate l/min | rpm   |       |        |        |        |        |        |        |        |        |        | Flow rate l/min |                 |
|-----------|----------|-----------------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------------|-----------------|
|           |          |                 | 700   | 1000  | 1500   | 2000   | 2500   | 3000   | 3500   | 4000   | 4500   | 5000   | 5500   |                 | 6000            |
| XV 1M/0.9 | 0,91     | Flow rate l/min | 0,630 | 0,900 | 1,350  | 1,800  | 2,250  | 2,700  | 3,150  | 3,600  | 4,050  | 4,500  | 4,950  | 5,400           | Flow rate l/min |
| XV 1M/1.2 | 1,17     |                 | 0,840 | 1,200 | 1,800  | 2,400  | 3,000  | 3,600  | 4,200  | 4,800  | 5,400  | 6,000  | 6,600  | 7,200           |                 |
| XV 1M/1.7 | 1,56     |                 | 1,190 | 1,700 | 2,550  | 3,400  | 4,250  | 5,100  | 5,950  | 6,800  | 7,650  | 8,500  | 9,350  | 10,200          |                 |
| XV 1M/2.2 | 2,08     |                 | 1,540 | 2,200 | 3,300  | 4,400  | 5,500  | 6,600  | 7,700  | 8,800  | 9,900  | 11,000 | 12,100 | 13,200          |                 |
| XV 1M/2.6 | 2,6      |                 | 1,820 | 2,600 | 3,900  | 5,200  | 6,500  | 7,800  | 9,100  | 10,400 | 11,700 | 13,000 | 14,300 | 15,600          |                 |
| XV 1M/3.2 | 3,12     |                 | 2,240 | 3,200 | 4,800  | 6,400  | 8,000  | 9,600  | 11,200 | 12,800 | 14,400 | 16,000 | 17,600 | 19,200          |                 |
| XV 1M/3.8 | 3,64     |                 | 2,660 | 3,800 | 5,700  | 7,600  | 9,500  | 11,400 | 13,300 | 15,200 | 17,100 | 19,000 | 20,900 | 22,800          |                 |
| XV 1M/4.3 | 4,16     |                 | 3,010 | 4,300 | 6,450  | 8,600  | 10,750 | 12,900 | 15,050 | 17,200 | 19,350 | 21,500 | 23,650 | 25,800          |                 |
| XV 1M/4.9 | 4,94     |                 | 3,430 | 4,900 | 7,350  | 9,800  | 12,250 | 14,700 | 17,150 | 19,600 | 22,050 | 24,500 | 26,950 | 29,400          |                 |
| XV 1M/5.9 | 5,85     |                 | 4,130 | 5,900 | 8,850  | 11,800 | 14,750 | 17,700 | 20,650 | 23,600 | 26,550 | 29,500 |        |                 |                 |
| XV 1M/6.5 | 6,5      |                 | 4,550 | 6,500 | 9,750  | 13,000 | 16,250 | 19,500 | 22,750 | 26,000 | 29,250 | 32,500 |        |                 |                 |
| XV 1M/7.8 | 7,54     |                 | 5,460 | 7,800 | 11,700 | 15,600 | 19,500 | 23,400 | 27,300 | 31,200 | 35,100 | 39,000 |        |                 |                 |
| XV 1P/9.8 | 9,88     |                 | 6,860 | 9,800 | 14,700 | 19,600 | 24,500 | 29,400 | 34,300 | 39,200 |        |        |        |                 |                 |

| TYPE     | cm3/rev |                 | rpm    |        |        |        |        |        |        |                 |
|----------|---------|-----------------|--------|--------|--------|--------|--------|--------|--------|-----------------|
|          |         |                 | 700    | 1000   | 1500   | 2000   | 2500   | 3000   |        | 3500            |
| XV 2M/4  | 4,2     | Flow rate l/min | 2,800  | 4,000  | 6,000  | 8,000  | 10,000 | 12,000 | 14,000 | Flow rate l/min |
| XV 2M/6  | 6       |                 | 4,200  | 6,000  | 9,000  | 12,000 | 15,000 | 18,000 | 21,000 |                 |
| XV 2M/9  | 8,4     |                 | 6,300  | 9,000  | 13,500 | 18,000 | 22,500 | 27,000 | 31,500 |                 |
| XV 2M/11 | 10,8    |                 | 7,700  | 11,000 | 16,500 | 22,000 | 27,500 | 33,000 | 38,500 |                 |
| XV 2M/14 | 14,4    |                 | 9,800  | 14,000 | 21,000 | 28,000 | 35,000 | 42,000 | 29,000 |                 |
| XV 2M/17 | 16,8    |                 | 11,900 | 17,000 | 25,500 | 34,000 | 42,500 | 51,000 | 59,500 |                 |
| XV 2M/19 | 19,2    |                 | 13,300 | 19,000 | 28,500 | 38,000 | 47,500 | 57,000 |        |                 |
| XV 2M/22 | 22,8    |                 | 15,400 | 22,000 | 33,000 | 44,000 | 55,000 | 66,000 |        |                 |
| XV 2M/26 | 26,2    |                 | 18,200 | 26,000 | 39,000 | 52,000 | 65,000 | 78,000 |        |                 |
| XV 2M/30 | 30      |                 | 21,000 | 30,000 | 45,000 | 60,000 | 75,000 |        |        |                 |
| XV 2M/34 | 34,2    |                 | 23,800 | 34,000 | 51,000 | 68,000 | 85,000 |        |        |                 |
| XV 2M/40 | 39,6    |                 | 28,000 | 40,000 | 60,000 | 80,000 |        |        |        |                 |

| TYPE     | cm3/rev |                 | rpm   |       |        |        |        |        |       |                 |
|----------|---------|-----------------|-------|-------|--------|--------|--------|--------|-------|-----------------|
|          |         |                 | 700   | 1000  | 1500   | 2000   | 2300   | 2500   |       | 3000            |
| XV 3M/15 | 14,89   | Flow rate l/min | 9,90  | 14,15 | 21,22  | 28,29  | 32,54  | 35,37  | 42,44 | Flow rate l/min |
| XV 3M/18 | 17,37   |                 | 11,55 | 16,51 | 24,76  | 33,01  | 37,96  | 41,26  | 49,52 |                 |
| XV 3M/21 | 21,10   |                 | 14,03 | 20,04 | 30,06  | 40,08  | 46,10  | 50,11  | 60,13 |                 |
| XV 3M/27 | 26,97   |                 | 17,94 | 25,62 | 38,43  | 51,24  | 58,93  | 64,05  | 76,86 |                 |
| XV 3M/32 | 32,27   |                 | 21,46 | 30,65 | 45,98  | 61,31  | 70,50  | 76,63  | 91,96 |                 |
| XV 3M/38 | 38,47   |                 | 25,58 | 36,55 | 54,82  | 73,09  | 84,06  | 91,37  |       |                 |
| XV 3M/43 | 43,44   |                 | 28,88 | 41,26 | 61,89  | 82,53  | 94,91  | 103,16 |       |                 |
| XV 3M/47 | 47,16   |                 | 31,36 | 44,80 | 67,20  | 89,60  | 103,04 | 112,00 |       |                 |
| XV 3M/51 | 50,88   |                 | 33,84 | 48,34 | 72,51  | 96,67  | 111,17 |        |       |                 |
| XV 3M/54 | 54,60   |                 | 36,31 | 51,87 | 77,81  | 103,75 | 119,31 |        |       |                 |
| XV 3M/61 | 60,81   |                 | 40,44 | 57,77 | 86,65  | 115,54 | 132,87 |        |       |                 |
| XV 3M/64 | 64,53   |                 | 42,91 | 61,31 | 91,96  | 122,61 | 141,00 |        |       |                 |
| XV 3M/70 | 70,74   |                 | 47,04 | 67,20 | 100,80 | 134,40 | 154,56 |        |       |                 |
| XV 3M/74 | 74,46   |                 | 49,52 | 70,74 | 106,11 | 141,47 | 162,70 |        |       |                 |
| XV 3M/90 | 86,87   |                 | 57,77 | 82,53 | 123,79 | 165,05 | 189,81 |        |       |                 |

**TORQUES ALLOWED ON SHAFT:**

| FORMULA FOR EVALUATING SHAFT   | SHAFT [IDENTIFIER] - CODE - DESCRIPTION                                  | T.2 [Nm] |
|--|--|----------|
| $T.2 \leq \frac{v_i \times \Delta p \times \eta m}{20 \times \pi}$ <p>T.2 = max. torque allowed by shaft [ Nm]</p> | <b>XV-0M</b><br>[A] - CI001 - Cilindrico ø 7 - M 7x1 - linguetta sp.2    | 2        |
|  | [B] - CF001 - Codolo fresato ø 7 - sp. 5                                 | 9,2      |
|  | [F] - CF005 - Codolo fresato ø 7 - sp.4,5 L = 9                          | 8        |
|  | <b>XV-1M</b><br>[A] - CI001 - Parallel ø12 - M10x1 - key thk. 3          | 25,8     |
|  | [B] - CI002 - Parallel ø12.7 - key thk. 3.2 (SAE)                        | 32,8     |
|  | [C] - CF001 - Milled shank ø10 - thk.5 ("BH" Standard German)            | 13,8     |
|  | [D] - CF002 - Milled shank ø10 - thk.5                                   | 13,8     |
|  | [E] - CF003 - Milled shank ø11 - thk.6.63 (SAE)                          | 25,8     |
|  | [F] - CO001 - Tapered 1:8 - ø10 - M7x1 - key thk.2.4                     | 43       |
|  | [G] - CO002 - Tapered 1:8 - ø14 - M10x1 - key thk.3                      | 119,8    |
|  | [ I ] - CO004 - Tapered 1:8 - ø12.7 - 5/16" 24UNF-2A - key thk.3.2 (SAE) | 90,4     |
|  | [J] - SCF04 - Splined ø11.7 - z=6, H=17.5, m=1.6, DIN 5482 12x9          | 22,6     |
|  | [K] - SCF05 - Splined ø12.344, z=9, H=19, SAE J498 9T 20/40DB            | 32,2     |
|  | [L] - SCF02 - Splined ø11.9, z=15, H=17.5, m=0.75                        | 42,8     |
|  | [O] - CO002+HK - Tapered 1:8 - ø14 - M10x1, HK 14-12, key thk.3          | 119,8    |
|  | [P] - CI001+HK - Parallel ø12 - M10x1 with bearing HK 14-12 - key thk.3  | 25,8     |
|  | [Q] - SCF01 - Splined ø11.9, z=15, H=9, m=0.75                           | 42,8     |
|  | [R] - SCF03 - Splined ø11.9, z=15, H=9, m=0.75                           | 42,8     |
|  | <b>XV-2M</b><br>[A] - CI001 - Parallel ø15 - M6x1 - key thk.4            | 44.1     |
|  | [B] - CI002 - Parallel ø15.875 - 1/4"28-UNF key thk.4 (SAE A)            | 67.5     |
|  | [C] - CF001 - Miled shank ø15 - thk.8 ("BH" Standard German)             | 60.5     |
|  | [E] - CO001 - Tapered 1:8 - ø17,4 - M12x1,5 - key thk.4                  | 233.2    |
|  | [F] - CO002 - Tapered 1:5 - ø17,4 - M12x1,5 - key thk.3                  | 233.2    |
|  | [G] - SCF02 - Splined ø16,5 - z=9, H=13, m=1.6 DIN 5482 17x14            | 86.1     |
|  | [H] - SCF03 - Splined ø16.5 - z=9, H=18,8, m=1,6 DIN 5482 17x14          | 86.1     |
|  | [ I ] - SCF04 - Splined ø15.456 z=9, H=22.5, SAE J498 9T 16/32DP         | 67.1     |
|  | [K] - SCF05 - Splined ø16.5 z=9 H=8,1 m=1.6 DIN 5482 17x14               | 86.2     |
|  | [L] - SCF01- Splined ø16.5 z=9 H=9,2 m=1.6 DIN 5482 17x14                | 86.2     |
| [M] - CO001 - Tapered 1:8 - ø17,4 - M12x1,5 - key thk.3,2  | 233.2  |          |
| <b>XV-3M</b><br>[A] - CO001 - Tapered 1:8 - ø22 - M14x1.5 - key thk.4  | 482  |          |
| [B] - CI001 - Parallel ø20 - M8 - key thk.5  | 181  |          |
| [C] - SCF03 - Splined ø21.5, z=13, H=25, m=1,6   | 223  |          |
| [H] - CI004 - Parallel ø22.225- 1/4"28-UNF key thk..6.35 (SAE B)   | 180  |          |
| [ I ] - SCF04 - Splined ø21.8059, z=13, H=25, SAE J498 9T 16/32DP  | 264  |          |

**NOTES:**

For assemblies with a coupling, you should choose one as balanced as possible in order to reduce the vibrations and dynamic stresses to which the motor shaft may be subject.

**Always make sure that the torque is less than or equal to the admissible torque of the shaft.** Do not apply a direct axial or radial load on the motor shaft; if necessary, use suitable supports. Always use well-filtered oils containing no water or other emulsifying substance.

Never run the motor with oil and air solutions.

For motor with outlets on the flange, it is recommended not to exceed a flow rate of

|           |       |
|-----------|-------|
| 4 l/min   | XV-0M |
| 20 l/min. | XV-1M |
| 35 l/min  | XV-2M |

**Useful calculation formulas**

| SYMBOL, UNIT OF MEASUREMENT, DESCRIPTION |                       |   |
|--|-----------------------|---|
| qv                                       | l/min                 | Flow rate   |
| vi                                       | cm <sup>3</sup> /rev. | Displacement (volume of oil displaced per complete revolution of the shaft)                                 |
| n  | rpm                   | Shaft rotation speed  |
| p1                                       | bar                   | inlet pressure  |
| p2                                       | bar                   | outlet pressure   |
| Δp                                       | bar                   | Δp=p2 - p1 difference between outlet (OUT) and inlet (IN) pressure  |
| Ph                                       | kW                    | Hydraulic power delivered   |
| Pm                                       | kW                    | Mechanical power absorbed   |
| T  | Nm                    | Torque absorbed by shaft  |
| ηv                                       | -                     | 0.91 – 0.96 volumetric efficiency<br>(volumetric ratio between operation under load and loadless operation) |
| ηm                                       | -                     | 0.85 – 0.90 mechanical efficiency   |
| ηt                                       | -                     | ηt = ηv x ηm total efficiency   |

| Basic Formulas  | Derived Formulas  |   |
|---|---|---|
| $qv = \frac{vi \times n}{1000} \times \eta v$                   | $vi = \frac{qv \times 1000}{n \times \eta v}$                   | $n = \frac{qv \times 1000}{vi \times \eta v}$                       |
| $T = \frac{vi \times \Delta p \times \eta m}{20 \times \pi}$    | $vi = \frac{T \times 20 \times \pi}{\Delta p \times \eta m}$    | $\Delta p = \frac{T \times 20 \times \pi}{vi \times \eta m}$        |
| $Ph = \frac{qv \times \Delta p}{600}$                           | $qv = \frac{Ph \times 600}{\Delta p}$                           | $\Delta p = \frac{Ph \times 600}{qv}$                               |
| $Pm = \frac{vi \times \Delta p \times n \times \eta m}{600000}$ | $vi = \frac{Pm \times 600000}{\Delta p \times n \times \eta m}$ | $\Delta p = \frac{600000 \times \eta m}{vi \times n \times \eta m}$ |

**Constructive features**

| PART                      | MATERIAL  | MECHANICAL FEATURES   |
|---------------------------|---|---|
| <b>MOTOR BODY</b>         | Extruded alloy Series 7000, heat treated and anodised   | Rp = 345 N/mm <sup>2</sup> (Yield strength)<br>Rm = 382 N/mm <sup>2</sup> (Breaking strength)         |
| <b>FLANGE AND COVER</b>   | Die-cast aluminium alloy with excellent mechanical features, heat treated and anodised  | Rp = 310÷350 N/mm <sup>2</sup> (Yield strength)<br>Rm = 350÷400 N/mm <sup>2</sup> (Breaking strength) |
| <b>GEAR BUSH BEARINGS</b> | Special heat-treated tin alloy with excellent mechanical features and high anti-friction capacity. Self-lubricating bushes DU | Rp = 350 N/mm <sup>2</sup> (Yield strength)<br>Rm = 390 N/mm <sup>2</sup> (Breaking strength)         |
| <b>GEARS</b>              | Steel UNI 7846  | Rs = 980 N/mm <sup>2</sup> (Yield strength)<br>Rm = 1270÷1570 N/mm <sup>2</sup> (Breaking strength)   |
| <b>SEALS</b>              | A 727 Standard Acrylonitrile<br>F 975 Viton FKM   | 70 Shore, thermal resistance 120°C<br>80 Shore, thermal resistance 200°C                              |
| <b>BACK-UP RINGS</b>      | Virgin PTFE<br>Tecnil Q3  |   |