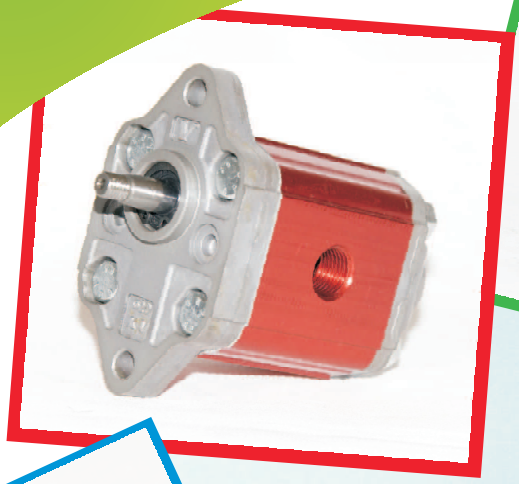
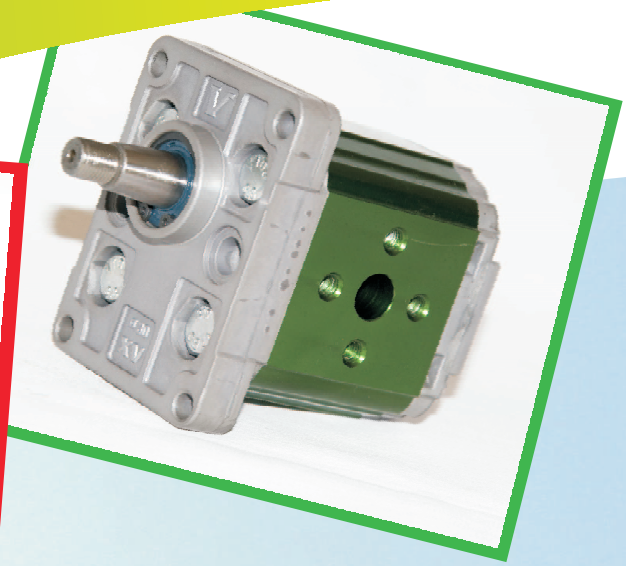
ViVoil



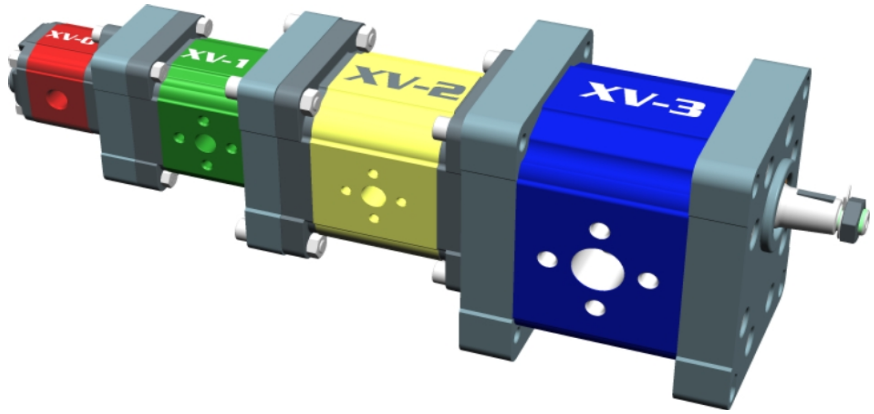


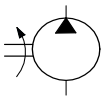
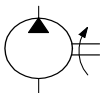
ENGLISH

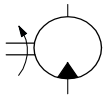
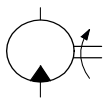
Unidirectional Motors

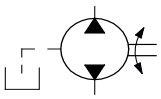
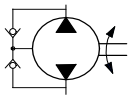
30-06-2008

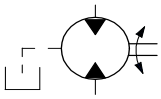
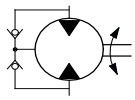
Symbols of Vivoil Oleodinamica Vivolo products



XV-0P	Unidirectional Pump	
XV-1P	Left Rotation	Right Rotation
XV-2P		
XV-3P		

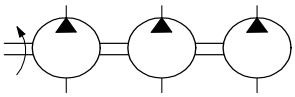
XV-0U	Unidirectional Motor	
XV-1U	Left Rotation	Right Rotation
XV-2U		
XV-3U		

XV-0R	Reversible Pump	
XV-1R	External drainage	Internal drainage
XV-2R		
XV-3R		

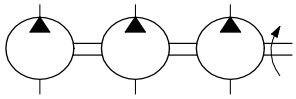
XV-0M	Reversible Motor	
XV-1M	External drainage	Internal drainage
XV-2M		
XV-3M		

XV-0T	XV-1T	XV-2T	XV-3T	Primary element of multiple pump
XV-0I	XV-1I	XV-2I	XV-3I	Intermediate element of multiple pump
XV-0F	XV-1F	XV-2F	XV-3F	Final element of multiple pump

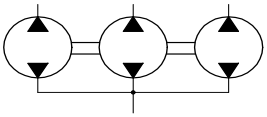
Left Rotation



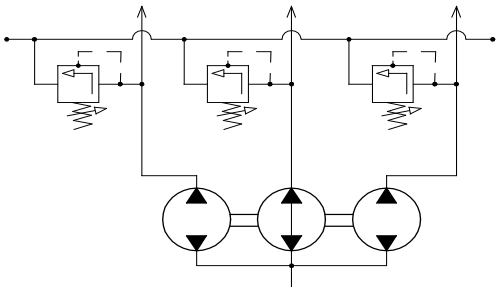
Right Rotation



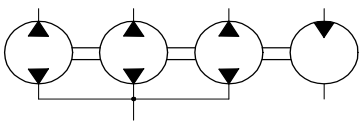
KV -DF	Flow divider



KV -DFV	Flow divired with valves



KV -DF+M	Flow divider with motor



UNIDIRECTIONAL MOTORS

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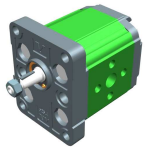
XV-0U

XV-1U



UNIDIRECTIONAL MOTORS

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XV-2U

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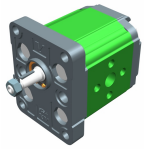
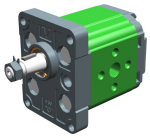
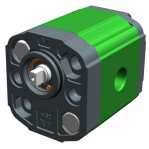
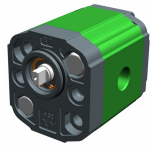
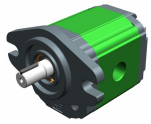
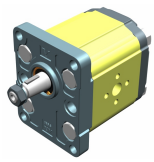
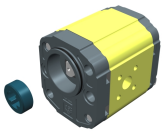
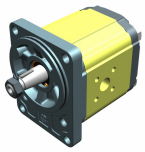
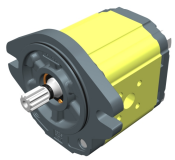
XV-0U

		
References: XU-001	References: XU-012	References: XU-017
Standard Ø22 FLANGE	**Ø22 BH FLANGE**	**Ø22 HY FLANGE**

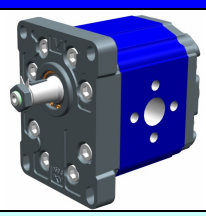
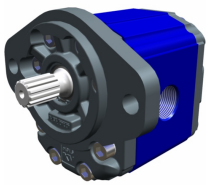
XV-1U

		
References: XU-101	References: XU-113	References: XU-119
Ø25.4 FLANGE	**Ø30 FLANGE**	**Ø32 BH FLANGE**
		
References : XU-140	References: XU-161	References: XU-168
Ø32 HY FLANGE	**Standard German Ø32 BH**	**Ø50.8 SAE AA FLANGE**

XV-2U

		
References : XU-201	References : XU-210	References: XU-213
Ø36.5 FLANGE	**Ø50 BH FLANGE**	**Ø50 HY FLANGE**
		
References: XU-216	References : XU-217	References : XU-219
Standard German Ø52 BH FLANGE	**Standard German Ø80 FLANGE**	**Ø82.5 SAE A FLANGE**

XV-3P

	
References : XU-301	References : XU-331
FLANGE Ø50,8 - Standard	**FLANGE Ø101,6 SAE B**

Vivoil Oleodinamica Vivolo s.r.l. presents a new series of gear motors called **XV-U**.
The quality of the product has been improved on by exploiting new and innovative solutions, both technical and constructive, for which the company has been **awarded 3 patents.**

The motors are divided into four groups: XV-0U XV1-U XV-2U XV-3U

The main features of the XV-0U are the following:

Displacements from 0.45 cm^3 / revolution to 2.28 cm^3/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.

The main features of the XV-1U are the following:

Displacements from 0.91 cm^3 / revolution to 9.88 cm^3/ 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.

The main features of the XV-2U are the following:

Displacements from 4.2 cm^3 / revolution a 39.6 cm^3/ 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.

The main features of the XV-3U are the following:

Displacements from 14.89 cm^3 / revolution to 86.87cm^3/ 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.

Summary: Displacements - Torque - Power - Pressures - Speeds

	TYPE	Displacement	Torque	Power	Max Inlet Pressure	Max Outlet Pressure	Min Starting Pressure	Min Speed	Max Speed
			1000 rev/min **100** bar						
XV-0U	**XV-0U/0.45**	0.45 cm^3/rev	0,61 Nm	0,06 KW	280 bar	1 bar	25 bar	700 rev/min	9000 rev/min
	XV-0U/0.57	0.56 cm^3/rev	0,76 Nm	0,08 KW	280 bar	1 bar	25 bar	700 rev/min	9000 rev/min
	XV-0U/0.76	0.75 cm3/rev	1,01 Nm	0,11 KW	280 bar	1 bar	25 bar	700 rev/min	9000 rev/min
	XV-0U/0.98	0.92 cm^3/rev	1,24 Nm	0,13 KW	280 bar	1 bar	20 bar	700 rev/min	6000 rev/min
	XV-0U/1.27	1.26 cm^3/rev	1,70 Nm	0,18 KW	280 bar	1 bar	15 bar	700 rev/min	6000 rev/min
	XV-0U/1.52	1.48 cm^3/rev	2,00 Nm	0,21 KW	280 bar	1 bar	10 bar	700 rev/min	6000 rev/min
	XV-0U/2.30	2.28 cm^3/rev	3,08 Nm	0,32 KW	210 bar	1 bar	10 bar	700 rev/min	5000 rev/min
XV-1U	**XV-1U/0.9**	0.91 cm^3/rev	1,23 Nm	0,13 KW	280 bar	6 bar	30 bar	700 rev/min	6000 rev/min
	XV-1U/1.2	1.17 cm^3/rev	1,58 Nm	0,17 KW	290 bar	6 bar	30 bar	700 rev/min	6000 rev/min
	XV-1U/1.7	1.56 cm^3/rev	2,11 Nm	0,22 KW	290 bar	6 bar	30 bar	700 rev/min	6000 rev/min
	XV-1U/2.2	2.08 cm^3/rev	2,81 Nm	0,29 KW	290 bar	6 bar	25 bar	700 rev/min	6000 rev/min
	XV-1U/2.6	2.60 cm^3/rev	3,52 Nm	0,37 KW	300 bar	6 bar	20 bar	700 rev/min	6000 rev/min
	XV-1U/3.2	3.12 cm^3/rev	4,22 Nm	0,44 KW	300 bar	6 bar	15 bar	700 rev/min	6000 rev/min
	XV-1U/3.8	3.64 cm^3/rev	4,92 Nm	0,52 KW	300 bar	6 bar	15 bar	700 rev/min	6000 rev/min
	XV-1U/4.3	4.16 cm^3/rev	5,63 Nm	0,59 KW	300 bar	6 bar	15 bar	700 rev/min	6000 rev/min
	XV-1U/4.9	4.94 cm^3/rev	6,68 Nm	0,70 KW	300 bar	6 bar	15 bar	700 rev/min	6000 rev/min
	XV-1U/5.9	5.85 cm^3/rev	7,91 Nm	0,83 KW	300 bar	6 bar	15 bar	700 rev/min	5000 rev/min
	XV-1U/6.5	6.50 cm^3/rev	8,79 Nm	0,92 KW	300 bar	6 bar	10 bar	700 rev/min	5000 rev/min
	XV-1U/7.8	7.54 cm^3/rev	10,20 Nm	1,07 KW	260 bar	6 bar	10 bar	700 rev/min	5000 rev/min
	XV-1U/9.8	9.88 cm^3/rev	13,37 Nm	1,40 KW	230 bar	6 bar	10 bar	700 rev/min	4000 rev/min
XV-2U	**XV-2U/4**	4.2 cm^3/rev	5,68 Nm	0,60 KW	300 bar	6 bar	30 bar	700 rev/min	3500 rev/min
	XV-2U/6	6.0 cm^3/rev	8,12 Nm	0,85 KW	300 bar	6 bar	25 bar	700 rev/min	3500 rev/min
	XV-2U/9	8.4 cm^3/rev	11,36 Nm	1,19 KW	300 bar	6 bar	20 bar	700 rev/min	3500 rev/min
	XV-2U/11	10.8 cm^3/rev	14,61 Nm	1,53 KW	300 bar	6 bar	20 bar	700 rev/min	3500 rev/min
	XV-2U/14	14.4 cm^3/rev	19,48 Nm	2,04 KW	290 bar	6 bar	15 bar	700 rev/min	3500 rev/min
	XV-2U/17	16.8 cm^3/rev	22,73 Nm	2,38 KW	270 bar	6 bar	15 bar	700 rev/min	3500 rev/min
	XV-2U/19	19.2 cm^3/rev	25,97 Nm	2,72 KW	250 bar	6 bar	15 bar	700 rev/min	3000 rev/min
	XV-2U/22	22.8 cm^3/rev	30,84 Nm	3,23 KW	240 bar	6 bar	15 bar	700 rev/min	3000 rev/min
	XV-2U/26	26.2 cm^3/rev	35,44 Nm	3,71 KW	210 bar	6 bar	15 bar	700 rev/min	3000 rev/min
	XV-2U/30	30.0 cm^3/rev	40,58 Nm	4,25 KW	200 bar	6 bar	15 bar	700 rev/min	2500 rev/min
	XV-2U/34	34.2 cm^3/rev	46,27 Nm	4,85 KW	190 bar	6 bar	15 bar	700 rev/min	2500 rev/min
	XV-2U/40	39.6 cm^3/rev	53,57 Nm	5,61 KW	180 bar	6 bar	15 bar	700 rev/min	2000 rev/min
XV-3U	**XV-3U/15**	14.89 cm^3/rev	20,14 Nm	2,11 KW	320 bar	6 bar	20 bar	700 rev/min	3000 rev/min
	XV-3U/18	17.37 cm^3/rev	23,50 Nm	2,46 KW	320 bar	6 bar	20 bar	700 rev/min	3000 rev/min
	XV-3U/21	21.10 cm^3/rev	28,54 Nm	2,99 KW	300 bar	6 bar	15 bar	700 rev/min	3000 rev/min
	XV-3U/27	26.97 cm^3/rev	36,49 Nm	3,82 KW	270 bar	6 bar	10 bar	700 rev/min	3000 rev/min
	XV-3U/32	32.27 cm^3/rev	43,66 Nm	4,57 KW	270 bar	6 bar	10 bar	700 rev/min	3000 rev/min
	XV-3U/38	38.47 cm^3/rev	52,04 Nm	5,45 KW	270 bar	6 bar	10 bar	700 rev/min	2800 rev/min
	XV-3U/43	43.44 cm^3/rev	58,77 Nm	6,15 KW	250 bar	6 bar	10 bar	700 rev/min	2800 rev/min
	XV-3U/47	47.16 cm^3/rev	63,80 Nm	6,68 KW	250 bar	6 bar	10 bar	700 rev/min	2800 rev/min
	XV-3U/51	50.88 cm^3/rev	68,83 Nm	7,21 KW	250 bar	6 bar	10 bar	700 rev/min	2800 rev/min
	XV-3U/54	54.60 cm^3/rev	73,86 Nm	7,74 KW	250 bar	6 bar	10 bar	700 rev/min	2300 rev/min
	XV-3U/61	60.81 cm^3/rev	82,26 Nm	8,61 KW	220 bar	6 bar	10 bar	700 rev/min	2300 rev/min
	XV-3U/64	64.53 cm^3/rev	87,30 Nm	9,14 KW	220 bar	6 bar	10 bar	700 rev/min	2300 rev/min
	XV-3U/70	70.74 cm^3/rev	95,70 Nm	10,02 KW	210 bar	6 bar	10 bar	700 rev/min	2300 rev/min
	XV-3U/74	74.46 cm^3/rev	100,73 Nm	10,55 KW	190 bar	6 bar	10 bar	700 rev/min	2300 rev/min
	XV-3U/90	86.87 cm^3/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^2/s
Maximum operating viscosity	100 mm^2/s
Maximum admissible viscosity at start-up	1500 mm^2/s
Recommended viscosity	20 mm^2/s - 100 mm^2/s
Ambient temperature	-20 ℃ - 60℃
Fluid operating temperature	-15℃ - 80℃
Recommended fluid operating temperature	30℃ - 50° C
For temperatures above 120℃	Request FKM seals (V iton)
Max. inlet fluid pressure (OUT)	0.3 - 0.5 bars (for higher pressures consult the manufacturer)
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		rpm														
			700	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000	7000	8000	9000
XV 0U/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
XV 0U/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 0U/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 0U/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 0U/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 0U/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 0U/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		rpm										
			700	1000	1500	2000	2500	3000	3500	4000	4500	5000	5500	6000
XV 1U/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
XV 1U/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 1U/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 1U/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 1U/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 1U/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 1U/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 1U/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 1U/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 1U/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 1U/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 1U/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 1U/9.8	9,88		6,860	9,800	14,700	19,600	24,500	29,400	34,300	39,200				

TORQUES ALLOWED ON SHAFT:

FORMULA FOR EVALUATING SHAFT		SHAFT [IDENTIFIER] - CODE - DESCRIPTION	T.2 [Nm]
$T.2 \le \frac{vi \times \Delta p \times \eta m}{20 \times \pi}$ **T.2** = max. torque allowed by shaft [Nm]	XV-0U	[A] - CI001 - Parallel ø 7 - M 7x1 - key thk sp.2	2
		[B] - CF001 - Milled shank ø 7 - sp. 5	9,2
		[F] - CF005 - Milled shank ø 7 - sp.4,5 L = 9	8
	XV-1U	[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
	XV-2U	[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
	XV-3U	[A] - COP01 - 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 o 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 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 shaft; if necessary, use suitable supports.

Always use well-filtered oils containing no water or other emulsifying substance.

Never run the pump with oil and air solutions.

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

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

Useful calculation formulas

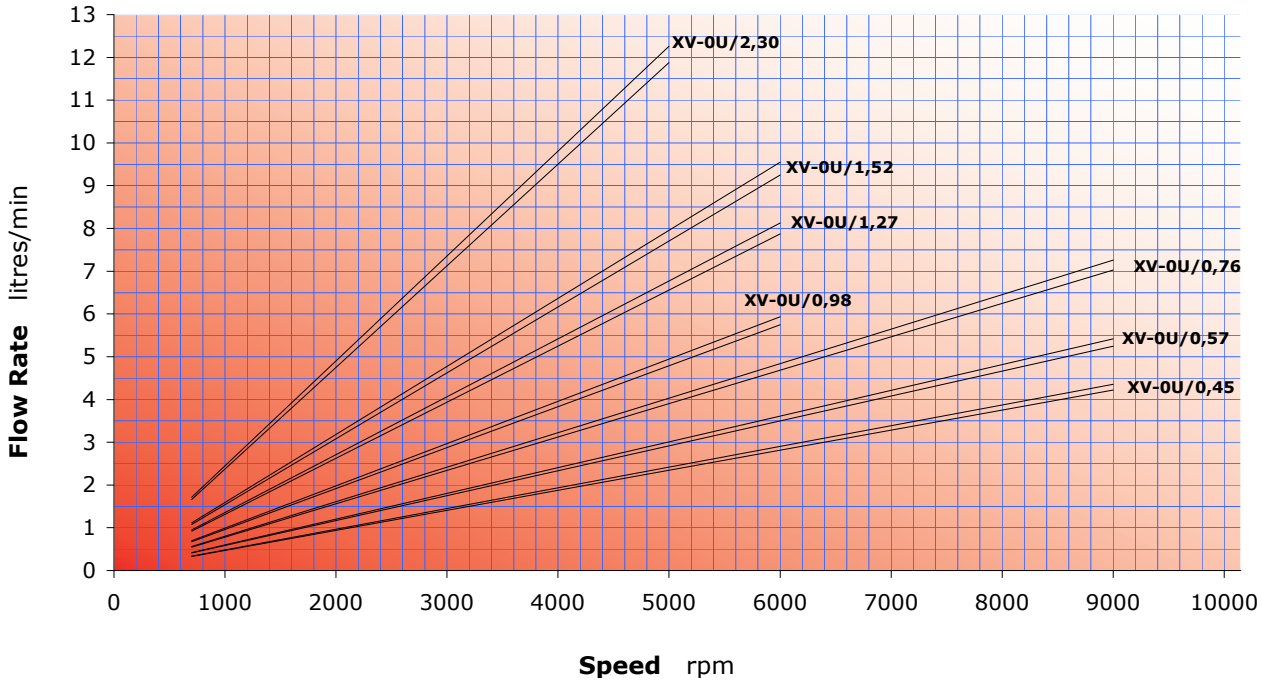
SYMBOL,	UNIT OF MEASUREMENT,	DESCRIPTION
qv	l/min	Flow rate
vi	cm^3/rev.	Displacement (volume of oil displaced per complete revolution of the shaft)
n	rpm	Shaft rotation speed
p1	bar	inlet pressure
p2	bar	outlet pressure
Δp	bar	Δp=p2 - p1 difference between outlet (OUT) and inlet (IN) pressure
Ph	kW	Hydraulic power delivered
Pm	kW	Mechanical power absorbed
T	Nm	Torque absorbed by shaft
ηv	-	0.91 – 0.96 volumetric efficiency (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	
$qv = \frac{vi \times n}{1000} \times \eta v$	$vi = \frac{qv \times 1000}{n \times \eta v}$	$n = \frac{qv \times 1000}{vi \times \eta v}$
$T = \frac{vi \times \Delta p \times \eta m}{20 \times \pi}$	$vi = \frac{T \times 20 \times \pi}{\Delta p \times \eta m}$	$\Delta p = \frac{T \times 20 \times \pi}{vi \times \eta m}$
$Ph = \frac{qv \times \Delta p}{600}$	$qv = \frac{Ph \times 600}{\Delta p}$	$\Delta p = \frac{Ph \times 600}{qv}$
$Pm = \frac{vi \times \Delta p \times n \times \eta m}{600000}$	$vi = \frac{Pm \times 600000}{\Delta p \times n \times \eta m}$	$\Delta p = \frac{600000 \times \eta m}{vi \times n \times \eta m}$

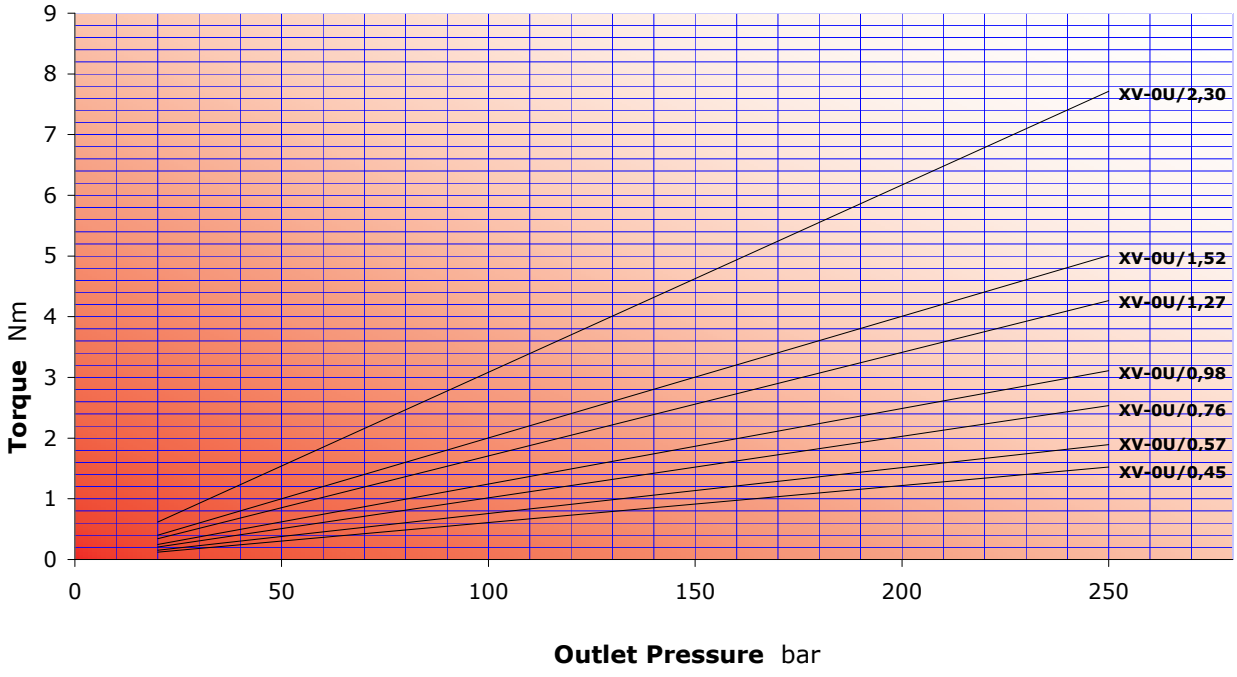
Constructive features

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

XV-0U CHARACTERISTIC FLOW RATE CURVES

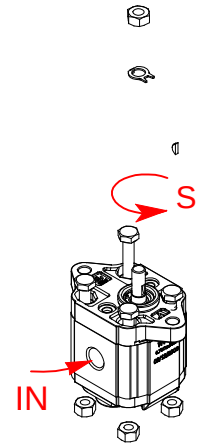
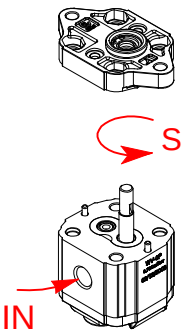
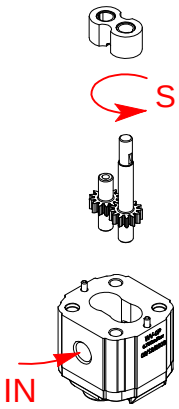
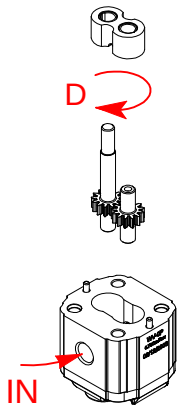
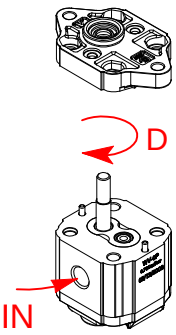
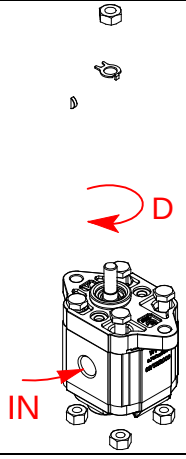


XV-0U MOTOR TORQUE



XV0-U with Flange ø22 Std, BH-HY (ref .from XU- 001 to XU-017)

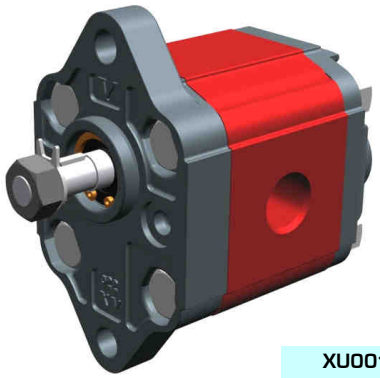
When changing the direction of rotation of the XV-0U motor, it is not necessary to change the flange, as the same one is used.
When disassembling and reassembling the motor, take special care to ensure that seals and back-up rings do not come out of place and that no foreign bodies, such as shavings or dirt in general, get inside the motor.

Flange *ø22* (ref. from XU- 001 to: XU- 017)					
					
Remove the key, nut and washer from the shaft. Loosen and remove the fastening screws.	Take off the flange.	Take out the gears and upper bush. Warning!! The bush **must <u>never</u>** be turned.	Invert the positions of the driven and driving shafts. Warning! The body and cover must not be turned. Use the marking on the body as your reference.	Fit the previously removed flange back in place taking care to clean the body-base contact surfaces.	Insert the screws back in place and tighten the nuts with a torque of 11.7 Nm to 13.7 Nm. Check that the shaft turns on completing the operation.
Note: with this rotation change system, the **inlets** and **outlets** remain unchanged.					

STANDARD MOTOR
ø22 FLANGE - PARALLEL SHAFT

X	0	U	06	02	A	B	B	A

Series	X	series XV
Group	0	group 0
Category	U	unidirectional motor
Displacement	06	0.76
Flange	02	Ø22 right rotation
Shaft	A	CI001 - Parallel ø7 - M7x1 - key thk. 2
Body IN	B	inlet - 1/4" GAS
Body OUT	B	outlet - 1/4" GAS
Cover	A	standard

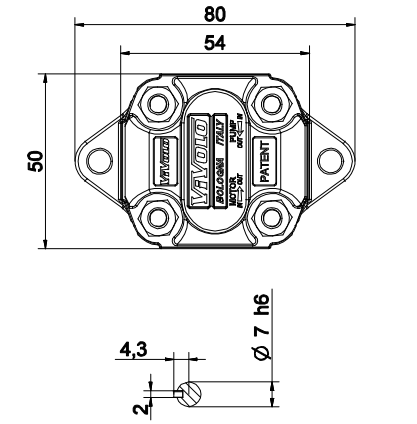


XU001

Technical data table

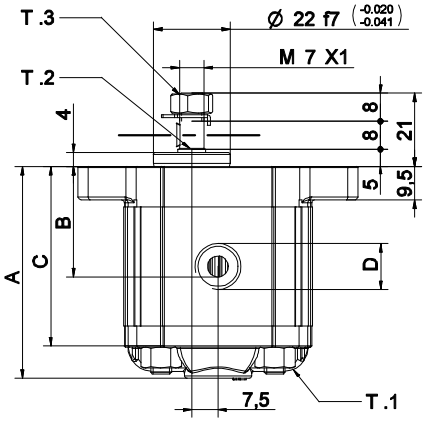
TYPE	Displacement	Max. Pressure		CODE	
	cm3/rev	P1 bar	P3 bar	Left rotation	Right rotation
XV-0U/0.45	0,45	220	280	X 0 U 04 01 A B B A	X 0 U 04 02 A B B A
XV-0U/0.57	0,56	220	280	X 0 U 05 01 A B B A	X 0 U 05 02 A B B A
XV-0U/0.76	0,75	200	260	X 0 U 06 01 A B B A	X 0 U 06 02 A B B A
XV-0U/0.98	0,92	200	260	X 0 U 07 01 A B B A	X 0 U 07 02 A B B A
XV-0U/1.27	1,26	200	260	X 0 U 09 01 A B B A	X 0 U 09 02 A B B A
XV-0U/1.52	1,48	200	260	X 0 U 11 01 A B B A	X 0 U 11 02 A B B A
XV-0U/2.30	2,28	160	190	X 0 U 13 01 A B B A	X 0 U 13 02 A B B A

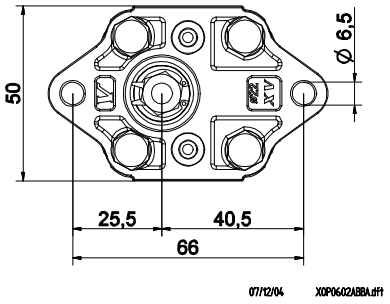
P1) Max. working pressure - P3) Max. peak pressure
For heavy-duty applications, it is recommended to check the admissible torque of the shaft



Dimensions table

TYPE	Weight	A	B	C	D	D
	kg	mm	mm	mm	IN	OUT
XV-0U/0.45	0,420	58,0	27,3	49,0	1/4" BSPP	1/4" BSPP
XV-0U/0.57	0,430	59,0	27,8	50,0	1/4" BSPP	1/4" BSPP
XV-0U/0.76	0,440	60,5	28,5	51,5	1/4" BSPP	1/4" BSPP
XV-0U/0.98	0,460	62,0	29,3	53,0	1/4" BSPP	1/4" BSPP
XV-0U/1.27	0,480	64,5	30,5	55,5	1/4" BSPP	1/4" BSPP
XV-0U/1.52	0,500	66,5	31,5	57,5	1/4" BSPP	1/4" BSPP
XV-0U/2.30	0,560	72,5	34,5	63,5	1/4" BSPP	1/4" BSPP



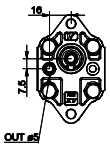
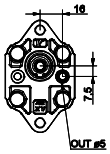
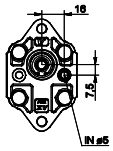
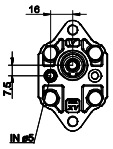
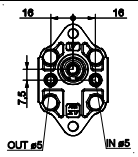
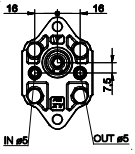


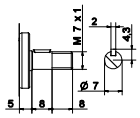
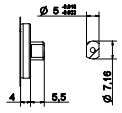
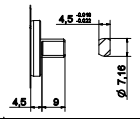
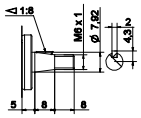
T.1 = 11.7÷13.7 [Nm] - screw tightening torque M6
T.3 = 11.5 [Nm] - torque wrench setting 11
T.2 = 2.1 [Nm] - admissible shaft torque (N.B. When choosing a shaft, always check the admissible torque).

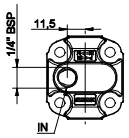
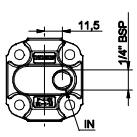
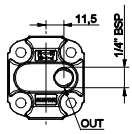
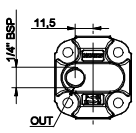
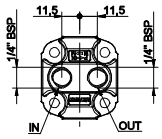
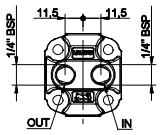
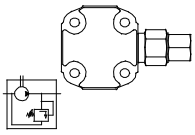
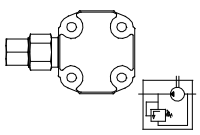
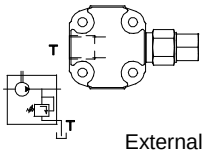
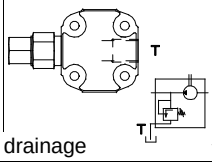
Table of variations

Standard ø22 FLANGE

XV-0U

Standard ø22 FLANGE			
Left rotation		Right rotation	
	01		02
	03		04
	05		06
	07		08

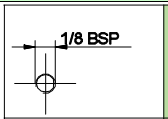
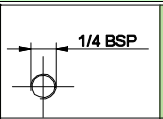
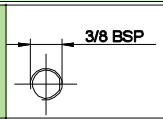
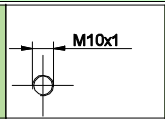
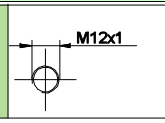
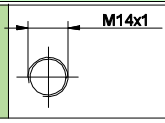
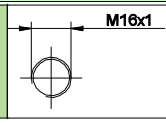
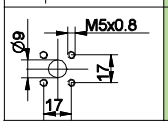
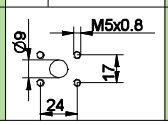
Shaft			
CI001 - Parallel T.2 = 2.1 [Nm]	A	CF001 - Milled shank T.2 = 9.2 [Nm]	B
			
CF005 - Milled shank T.2 = 8.4 [Nm]	F	CO001 - Tapered T.2 = 21.9 [Nm]	E
			

Cover		
Left rotation	Right rotation	
		A
		B
		C
		D
 Internal drainage		N
 External drainage		O

Displacement	
TYPE	CODE
XV-0U/0.45	**04**
XV-0U/0.57	**05**
XV-0U/0.76	**06**
XV-0U/0.98	**07**
XV-0U/1.27	**09**
XV-0U/1.52	**11**
XV-0U/2.30	**13**

Standard bodies			
Displacementcm3/rev	Standard threads		
0,17	B - B	Z - B	Z - Z
0,25	B - B	Z - B	Z - Z
0,45	B - B	Z - B	Z - Z
0,57	B - B	Z - B	Z - Z
0,76	B - B	Z - B	Z - Z
0,98	B - B	Z - B	Z - Z
1,27	B - B	Z - B	Z - Z
1,52	B - B	Z - B	Z - Z
2,30	B - B	Z - B	Z - Z

Table showing standard flange and thread combinations available in stock

Body (threads/flanges)															
	A		B		C		D		E		F		G
	H		I	Closed Body	Z										

X	0	U	06	12	B	B	B	A

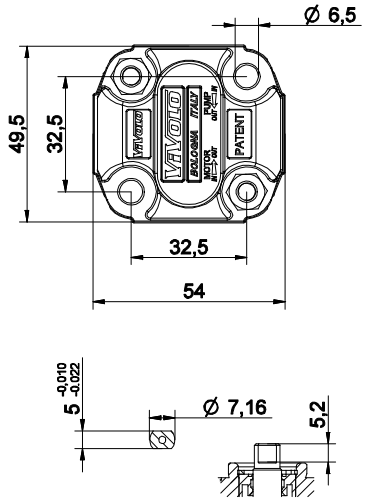
Series	X	series XV
Group	0	group 0
Category	U	unidirectional motor
Displacement	06	0.76
Flange	12	Ø22 BH right rotation
Shaft	B	CF001 - Milled shank ø7 - thk.5
Body IN	B	inlet - 1/4" GAS
Body OUT	B	outlet - 1/4" GAS
Cover	A	standard

XU012

Technical data table

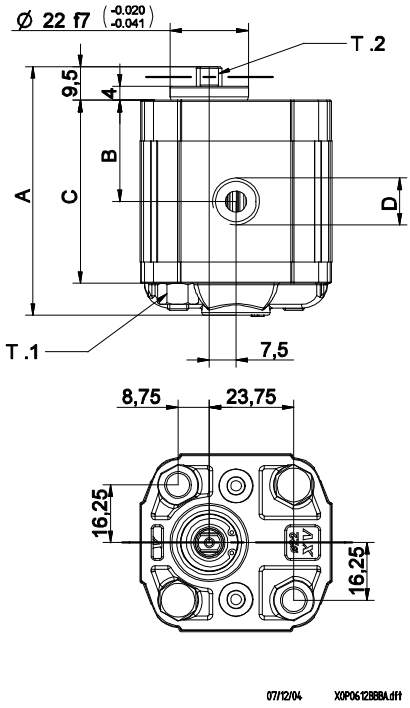
TYPE	Displacement	Max. Pressure		CODE	
	cm3/rev	P1 bar	P3 bar	Left rotation	Right rotation
XV-0U/0.45	0,45	220	280	X 0 U 04 11 B B B A	X 0 U 04 12 B B B A
XV-0U/0.57	0,56	220	280	X 0 U 05 11 B B B A	X 0 U 05 12 B B B A
XV-0U/0.76	0,75	200	260	X 0 U 06 11 B B B A	X 0 U 06 12 B B B A
XV-0U/0.98	0,92	200	260	X 0 U 07 11 B B B A	X 0 U 07 12 B B B A
XV-0U/1.27	1,26	200	260	X 0 U 09 11 B B B A	X 0 U 09 12 B B B A
XV-0U/1.52	1,48	200	260	X 0 U 11 11 B B B A	X 0 U 11 12 B B B A
XV-0U/2.30	2,28	160	190	X 0 U 13 11 B B B A	X 0 U 13 12 B B B A

P1) Max. working pressure - P3) Max. peak pressure
For heavy-duty applications, it is recommended to check the admissible torque of the shaft



Dimensions table

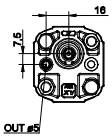
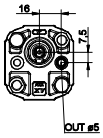
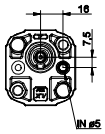
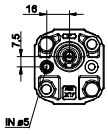
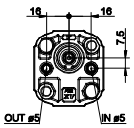
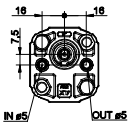
TYPE	Weight	A	B	C	D	D
	kg	mm	mm	mm	IN	OUT
XV-0U/0.45	0,420	58,0	27,3	49,0	1/4" BSPP	1/4" BSPP
XV-0U/0.57	0,430	59,0	27,8	50,0	1/4" BSPP	1/4" BSPP
XV-0U/0.76	0,440	60,5	28,5	51,5	1/4" BSPP	1/4" BSPP
XV-0U/0.98	0,460	62,0	29,3	53,0	1/4" BSPP	1/4" BSPP
XV-0U/1.27	0,480	64,5	30,5	55,5	1/4" BSPP	1/4" BSPP
XV-0U/1.52	0,500	66,5	31,5	57,5	1/4" BSPP	1/4" BSPP
XV-0U/2.30	0,560	72,5	34,5	63,5	1/4" BSPP	1/4" BSPP

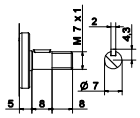
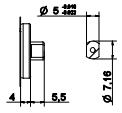
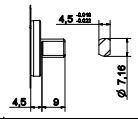
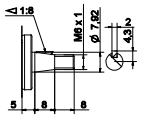


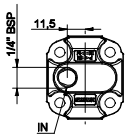
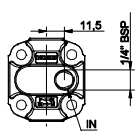
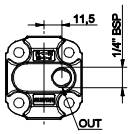
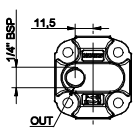
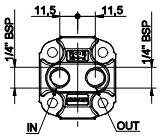
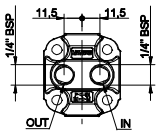
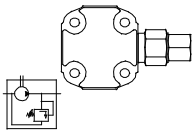
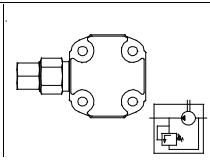
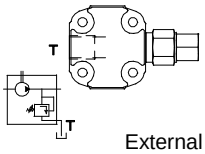
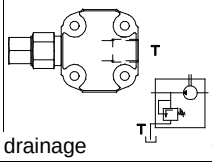
T.1 = 11.7÷13.7 [Nm] - screw tightening torque M6
T.2 = 9.2 [Nm] - admissible shaft torque (N.B. When choosing a shaft, always check the admissible torque).

Table of variations

ø22 "BH" Body-Shaped FLANGE

ø22 "BH" Body-Shaped FLANGE			
Left rotation		Right rotation	
	11		12
	13		14
	15		16
	17		18

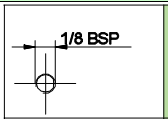
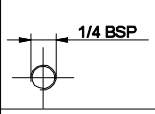
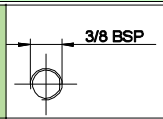
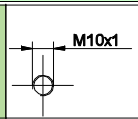
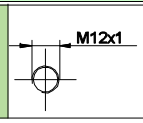
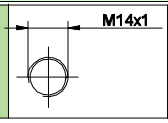
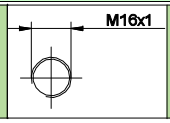
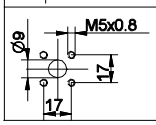
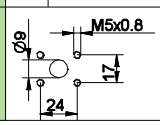
Shaft			
CI001 - Parallel T.2 = 2.1 [Nm]	A	CF001 - Milled shank T.2 = 9.2 [Nm]	B
			
CF005 - Milled shank T.2 = 8.4 [Nm]	F	CO001 - Tapered T.2 = 21.9 [Nm]	E
			

Cover		
Left rotation	Right rotation	
		A
		B
		C
		D
		N
Internal drainage		
		O
External drainage		

Displacement	
TYPE	CODE
XV-0U/0.45	**04**
XV-0U/0.57	**05**
XV-0U/0.76	**06**
XV-0U/0.98	**07**
XV-0U/1.27	**09**
XV-0U/1.52	**11**
XV-0U/2.30	**13**

Standard bodies			
Displacementcm3/rev	Standard threads		
0,17	B - B	Z - B	Z - Z
0,25	B - B	Z - B	Z - Z
0,45	B - B	Z - B	Z - Z
0,57	B - B	Z - B	Z - Z
0,76	B - B	Z - B	Z - Z
0,98	B - B	Z - B	Z - Z
1,27	B - B	Z - B	Z - Z
1,52	B - B	Z - B	Z - Z
2,30	B - B	Z - B	Z - Z

Table showing standard flange and thread combinations available in stock

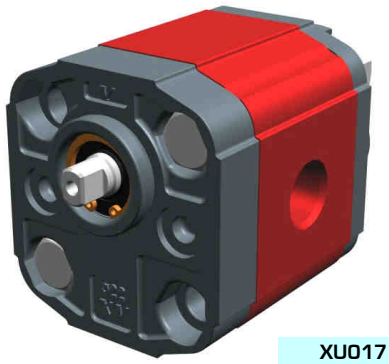
Body (threads/flanges)															
 1/8 BSP	A	 1/4 BSP	B	 3/8 BSP	C	 M10x1	D	 M12x1	E	 M14x1	F	 M16x1	G
 M5x0.8	H	 M5x0.8	I	Closed Body	Z										

unidirectional motor - series XV

HY TYPE MOTOR
ø22 BODY-SHAPED FLANGE - MILLED SHANK

X	0	U	06	22	B	B	B	A

Series		X	series XV
Group		0	group 0
Category		U	unidirectional motor
Displacement		06	0.76
Flange		22	Ø22 HY right rotation
Shaft		B	CF001 - Milled shank ø7 - thk.5
Body	IN	B	inlet - 1/4" GAS
	OUT	B	outlet - 1/4" GAS
Cover		A	standard

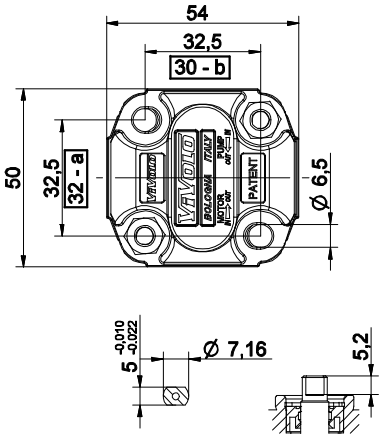


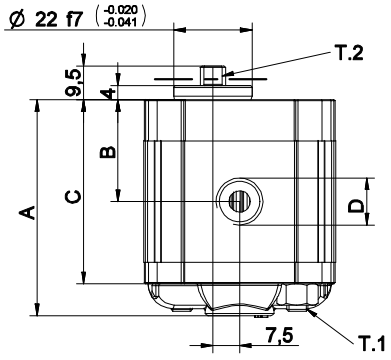
XU017

Technical data table

TYPE	Displacement	Max. Pressure		CODE	
	cm3/rev	P1 bar	P3 bar	Left rotation	Right rotation
XV-0U/0.45	0,45	220	280	X 0 U 04 21 B B B A	X 0 U 04 22 B B B A
XV-0U/0.57	0,56	220	280	X 0 U 05 21 B B B A	X 0 U 05 22 B B B A
XV-0U/0.76	0,75	200	260	X 0 U 06 21 B B B A	X 0 U 06 22 B B B A
XV-0U/0.98	0,92	200	260	X 0 U 07 21 B B B A	X 0 U 07 22 B B B A
XV-0U/1.27	1,26	200	260	X 0 U 09 21 B B B A	X 0 U 09 22 B B B A
XV-0U/1.52	1,48	200	260	X 0 U 11 21 B B B A	X 0 U 11 22 B B B A
XV-0U/2.30	2,28	160	190	X 0 U 13 21 B B B A	X 0 U 13 22 B B B A

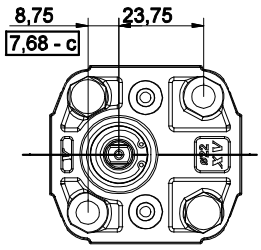
P1) Max. working pressure - P3) Max. peak pressure
For heavy-duty applications, it is recommended to check the admissible torque of the shaft





Dimensions table

TYPE	Weight	A	B	C	D	D
	kg	mm	mm	mm	IN	OUT
XV-0U/0.45	0,420	58,0	27,3	49,0	1/4" BSPP	1/4" BSPP
XV-0U/0.57	0,430	59,0	27,8	50,0	1/4" BSPP	1/4" BSPP
XV-0U/0.76	0,440	60,5	28,5	51,5	1/4" BSPP	1/4" BSPP
XV-0U/0.98	0,460	62,0	29,3	53,0	1/4" BSPP	1/4" BSPP
XV-0U/1.27	0,480	64,5	30,5	55,5	1/4" BSPP	1/4" BSPP
XV-0U/1.52	0,500	66,5	31,5	57,5	1/4" BSPP	1/4" BSPP
XV-0U/2.30	0,560	72,5	34,5	63,5	1/4" BSPP	1/4" BSPP

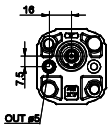
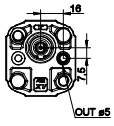
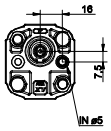
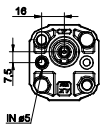
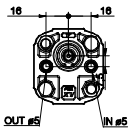
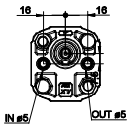


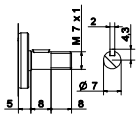
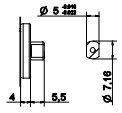
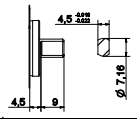
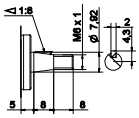
07/12/04 X0P0622B8BA.dft

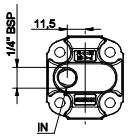
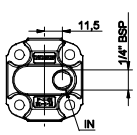
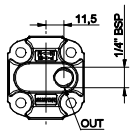
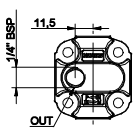
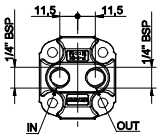
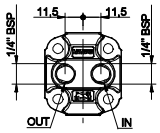
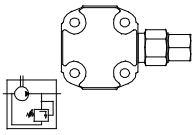
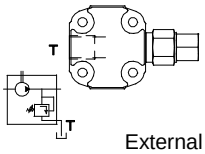
T.1 = 11.7÷13.7 [Nm] - screw tightening torque M6
T.2 = 9.2 [Nm] - admissible shaft torque (N.B. When choosing a shaft, always check the admissible torque).
NOTE: This type of pump is also interchangeable with distance between centres of fastening in M5 (see dim. a, b, c).

Table of variations

ø22 "HY" Body-Shaped FLANGE

ø22 "HY" Body-Shaped FLANGE			
Left rotation		Right rotation	
	21		22
	23		24
	25		26
	27		28

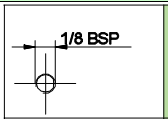
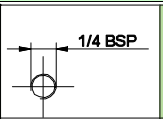
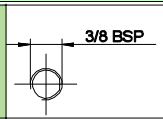
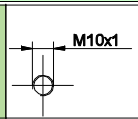
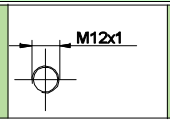
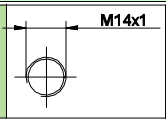
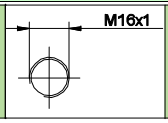
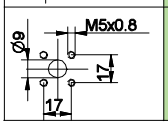
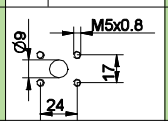
Shaft			
CI001 - Parallel T.2 = 2.1 [Nm]	A	CF001 - Milled shank T.2 = 9.2 [Nm]	B
			
CF005 - Milled shank T.2 = 8.4 [Nm]	F	CO001 - Tapered T.2 = 21.9 [Nm]	E
			

Cover		
Left rotation	Right rotation	
		A
		B
		C
		D
 Internal drainage		N
 External drainage		O

Displacement	
TYPE	CODE
XV-0U/0.45	**04**
XV-0U/0.57	**05**
XV-0U/0.76	**06**
XV-0U/0.98	**07**
XV-0U/1.27	**09**
XV-0U/1.52	**11**
XV-0U/2.30	**13**

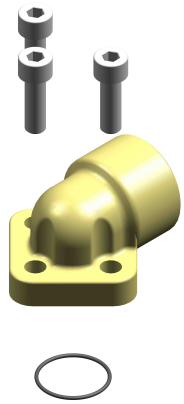
Standard bodies			
Displacementcm3/rev	Standard threads		
0,17	B - B	Z - B	Z - Z
0,25	B - B	Z - B	Z - Z
0,45	B - B	Z - B	Z - Z
0,57	B - B	Z - B	Z - Z
0,76	B - B	Z - B	Z - Z
0,98	B - B	Z - B	Z - Z
1,27	B - B	Z - B	Z - Z
1,52	B - B	Z - B	Z - Z
2,30	B - B	Z - B	Z - Z

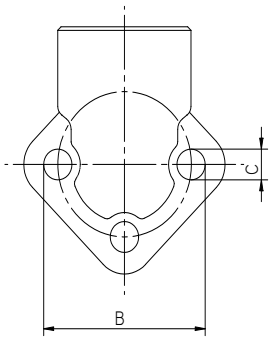
Table showing standard flange and thread combinations available in stock

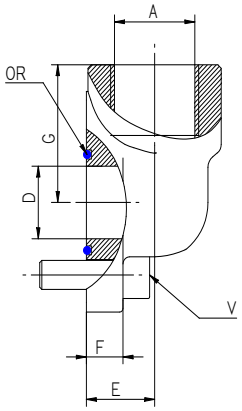
Body (threads/flanges)															
	A		B		C		D		E		F		G
	H		I	Closed Body	Z										

90° STEEL ELBOWS

Code	Type	A	B	C	D	E	F	G	OR O ring	V Screw	weigth
8KRG001	RG 26/12-3/8"BSP	3/8"	26	5,5	12	18	9,5	27	ø14,00x1,78	M5x18	0,13
8KRG002	RG 26/12-1/2"BSP	1/2"	26	5,5	12	18	9,5	27	ø14,00x1,78	M5x18	0,12
8KRG003	RG 30/13,5 -3/8"BSP	3/8"	30	6,5	13,5	18	9,5	27	ø15,88x2,62	M6x20	0,17
8KRG004	RG 30/13,5 -1/2"BSP	1/2"	30	6,5	13,5	18	9,5	27	ø15,88x2,62	M6x20	0,16
8KRG005	RG 40/20-1/2"BSP	1/2"	40	8,5	20	21	10,5	38	ø23,81x2,62	M8x25	0,36
8KRG006	RG 40/20-3/4"BSP	3/4"	40	8,5	20	21	10,5	38	ø23,81x2,62	M8x25	0,32
8KRG007	RG 40/23-3/4"BSP	3/4"	40	8,5	23,5	21	10,5	38	ø25,12x1,78	M8x25	0,29
8KRG008	RG 51/27-1"BSP	1"	51	10,5	27	27	13,5	47	ø31,42x2,62	M10x30	0,7
8KRG009	RG 51/27-3/4" BSP	3/4"	51	10,5	27	27	13,5	47	ø31,42x2,62	M10x30	0,7
8KRG011	RG 56/34-3/4" BSP	3/4"	56	10,5	34	27	13,5	47	ø37,77x2,62	M10x30	0,72
8KRG012	RG 62/36-1"1/4 BSP	1"1/4	62	10,5	36	36	19	56	ø41,28x3,53	M10x30	0,94
8KRG015	RG 62/36-1"1/4 BSP M12	1"1/4	62	12,5	36	36	19	56	ø41,28x3,53	M12x35	0,94
8KRG013	RG 72,5/45-1"1/2 BSP	1"1/2	72,5	12,5	45	38	16	58	ø49,20x3,53	M12x35	1,23
8KRG014	RG 92/65-2" BSP	2	92	12,5	65	50	21	75	ø69,85x3,53	M12x40	1,65

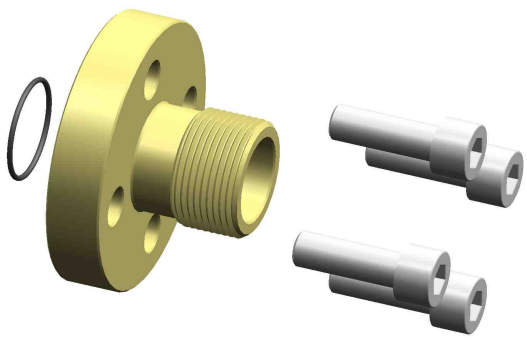


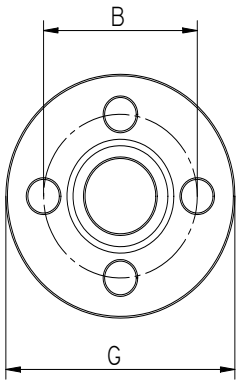


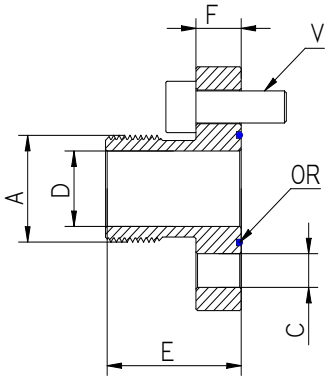


STRAIGHT STEEL UNIONS

Code	Type	A	B	C	D	E	F	G	OR O ring	V Screw	Weigth
8KRD001	RD 26/12-3/8"BSP	3/8"	26	5,5	12	32	10	39	ø14,00x1,78	M5x18	0,11
8KRD002	RD 30/13,5-1/2"BSP	1/2"	30	6,5	13,5	40	10	44	ø15,88x2,62	M6x20	0,14
8KRD005	RD 40/20-3/4"BSP	3/4"	40	8,5	20	42	12	51	ø23,81x2,62	M8x25	0,3
8KRD006	RD 40/23,5-3/4"BSP	3/4"	40	8,5	23,5	42	12	51	ø25,12x1,78	M8x25	0,29
8KRD007	RD 51/27-1"BSP	1"	51	10,5	27	43	12	68	ø31,42x2,62	M10x25	0,46
8KRD008	RD 56/34-1"1/4 BSP	1" 1/4	56	10,5	34	53	12	73	ø37,77x2,62	M10x25	0,68
8KRD009	RD 62/36-1"1/4 BSP	1" 1/4	62	10,5	36	47	13	78	ø41,28x3,53	M10x25	0,9
8KRD010	RD 72,5/45-1"1/2 BSP	1" 1/2	72,5	12,5	45	49	14	89	ø49,20x3,53	M12x30	1,05
8KRD011	RD 92/65-2"1/2 BSP	2" 1/2	92	12,5	65	60	18	114	ø69,85x3,53	M12x40	1,15

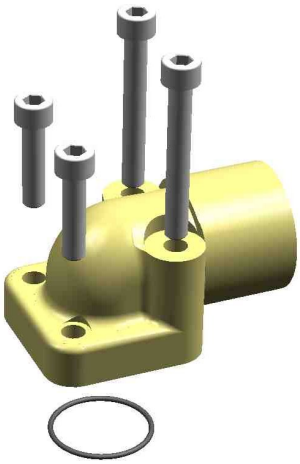


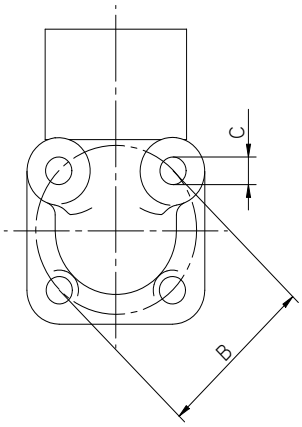


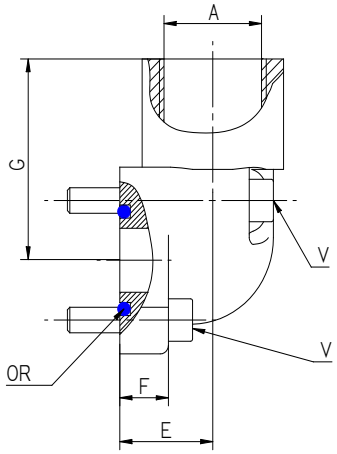


SQUARED STEEL ELBOWS

Code	Type	A	B	C	D	E	F	G	OR O ring	V Screw	Weight
8KRQ001	RQ 30/12-3/8"BSP	3/8"	30	6,5	12	19	11	41	ø15,88x2,61	N°2 M6x20 N°2 M6x35	0,29
8KRQ002	RQ 30/12-1/2"BSP	1/2"	30	6,5	12	19	11	41	ø15,88x2,62	N°2 M6x20 N°2 M6x35	0,29
8KRQ003	RQ 35/15 -3/8"BSP	3/8"	35	6,5	15	18	11	40	ø18,72x2,62	N°2 M6x20 N°2 M6x35	0,34
8KRQ004	RQ 35/15 -1/2"BSP	1/2"	35	6,5	15	18	11	40	ø18,72x2,62	N°2 M6x20 N°2 M6x35	0,34
8KRQ005	RQ 40/20-1/2"BSP	1/2"	40	6,5	20	24	10	45	ø22,22x2,62	N°2 M6x25 N°2 M6x45	0,4
8KRQ006	RQ 40/20-3/4"BSP	3/4"	40	6,5	20	24	10	45	ø22,22x2,62	N°2 M6x25 N°2 M6x45	0,4
8KRQ007	RQ 55/25-3/4"BSP	3/4"	55	8,5	25	35	13	54	ø29,75x3,53	N°2 M8x25 N°2 M8x60	0,45
8KRQ008	RQ 55/25-1" BSP	1"	55	8,5	25	35	13	54	ø29,75x3,53	N°2 M8x25 N°2 M8x60	0,45







STRAIGHT STEEL UNIONS

Code	Type	A	B	C	D	E	F	G	OR O ring	V Screw	Weigth
8KRD003	RD 35/15 (BH)-1/2"BSP	1/2"	35	6,5	14	35	10	40	ø18,72x2,62	M6x20	0,15
8KRD004	RD 40/20 (BH)-3/4"BSP	3/4"	40	6,5	17	35	10	40	ø22,22x2,62	M6x20	0,17