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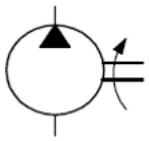
Group 3 XV-3P Vivoil Vivolo Aluminium Gear Pumps – Clockwise but Rotation can be changed on request
BSP Threaded Body - CO001 – Tapered 1:8 – Ø22 – M14x1.5 – Key thk. 4mm – Unidirectional

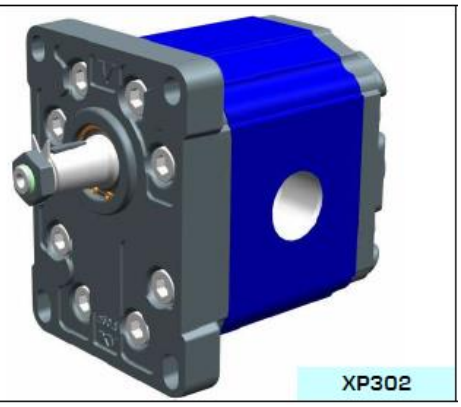


X	3	P	78	02	A	E	E	A

Series		X	series XV
Group		3	group 3
Category		P	unidirectional pump
Displacement		78	38
Flange		02	Ø50.8 right rotation
Shaft		A	CO001 - Tapered 1:8 - ø22 - key thk.4
Body	IN	E	inlet - 1" BSP
	OUT	E	outlet - 1" BSP
Cover		A	standard

Right Rotation





Technical data table

TYPE	Displacement	Max. Pressure		CODE	
	cm3/rev	P1 bar	P3 bar	Left rotation	Right rotation
XV-3P/15	14,89	300	320	X 3 P 66 01 A D D A	X 3 P 66 02 A D D A
XV-3P/18	17,37	300	320	X 3 P 68 01 A D D A	X 3 P 68 02 A D D A
XV-3P/21	21,10	280	300	X 3 P 70 01 A D D A	X 3 P 70 02 A D D A
XV-3P/27	26,97	250	270	X 3 P 72 01 A E E A	X 3 P 72 02 A E E A
XV-3P/32	32,27	250	270	X 3 P 74 01 A E E A	X 3 P 74 02 A E E A
XV-3P/38	38,47	250	270	X 3 P 78 01 A E E A	X 3 P 78 02 A E E A
XV-3P/43	43,44	250	270	X 3 P 79 01 A E E A	X 3 P 79 02 A E E A
XV-3P/47	47,16	230	250	X 3 P 80 01 A E E A	X 3 P 80 02 A E E A
XV-3P/51	50,88	230	250	X 3 P 81 01 A E E A	X 3 P 81 02 A E E A
XV-3P/54	54,60	230	250	X 3 P 82 01 A E E A	X 3 P 82 02 A E E A
XV-3P/61	60,81	230	250	X 3 P 83 01 A F F A	X 3 P 83 02 A F F A
XV-3P/64	64,53	210	230	X 3 P 85 01 A F F A	X 3 P 85 02 A F F A
XV-3P/70	70,74	200	220	X 3 P 86 01 A F F A	X 3 P 86 02 A F F A
XV-3P/74	74,46	180	200	X 3 P 87 01 A F F A	X 3 P 87 02 A F F A
XV-3P/90	86,87	150	170	X 3 P 89 01 A F F A	X 3 P 89 02 A F F A

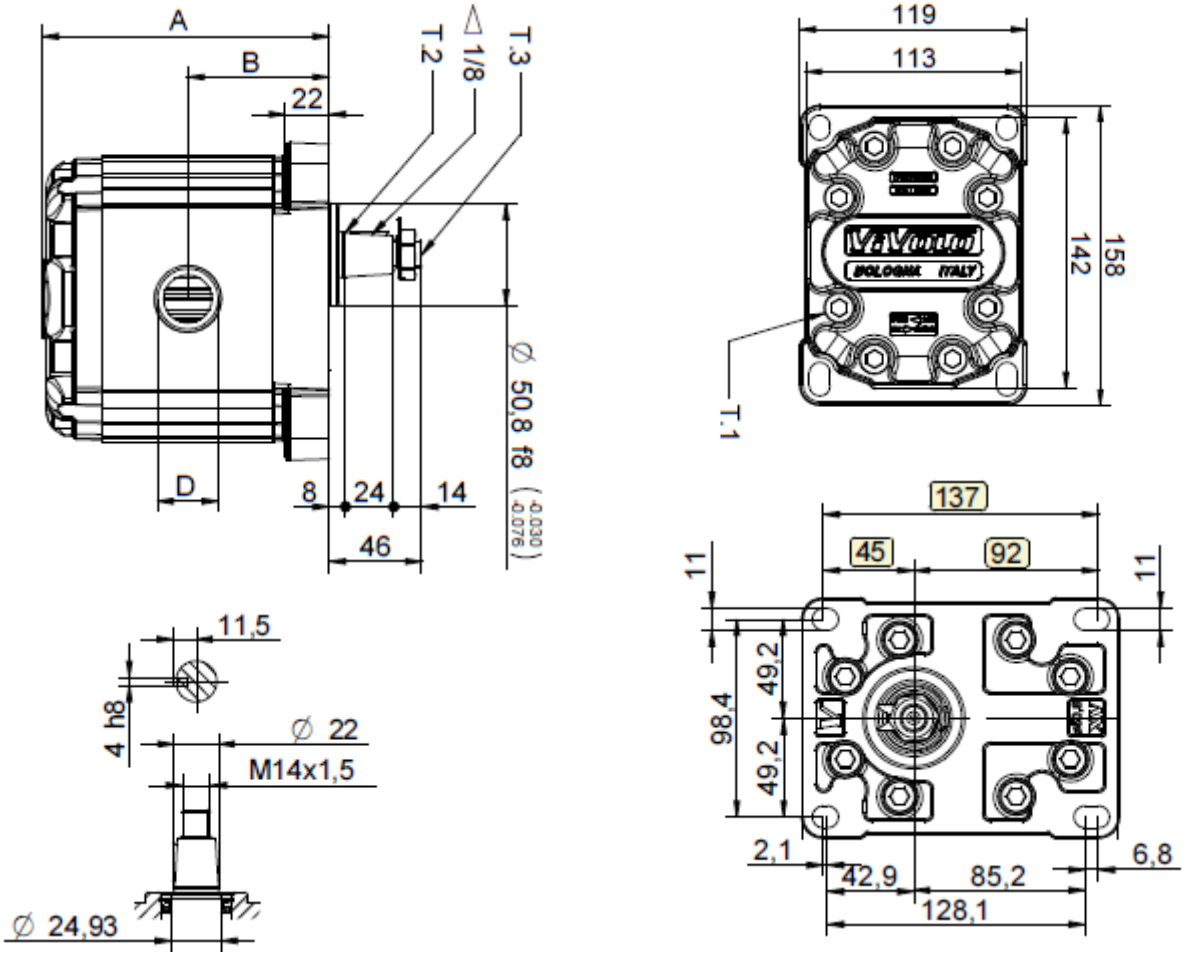
P1) Max. working pressure - P3) Max. peak pressure
For heavy-duty applications, it is recommended to check the admissible torque of the shaft

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Dimensions table					
TYPE	Weight	A	B	D	D
	kg	mm	mm	IN	OUT
XV-3P/15	7,010	124,0	61,0	3/4" BSPP	3/4" BSPP
XV-3P/18	7,070	126,0	62,0	3/4" BSPP	3/4" BSPP
XV-3P/21	7,150	129,0	63,5	3/4" BSPP	3/4" BSPP
XV-3P/27	7,250	133,0	65,5	1" BSPP	1" BSPP
XV-3P/32	7,390	138,0	68,0	1" BSPP	1" BSPP
XV-3P/38	7,520	143,0	70,5	1" BSPP	1" BSPP
XV-3P/43	7,630	147,0	72,5	1" BSPP	1" BSPP
XV-3P/47	7,710	150,0	74,0	1" BSPP	1" BSPP
XV-3P/51	7,790	153,0	75,5	1" BSPP	1" BSPP
XV-3P/54	7,870	156,0	77,0	1" BSPP	1" BSPP
XV-3P/61	8,010	161,0	79,5	1" 1/4 BSPP	1" 1/4 BSPP
XV-3P/64	8,090	164,0	81,0	1" 1/4 BSPP	1" 1/4 BSPP
XV-3P/70	8,220	169,0	83,5	1" 1/4 BSPP	1" 1/4 BSPP
XV-3P/74	8,300	172,0	85,0	1" 1/4 BSPP	1" 1/4 BSPP

T.1 = 60÷65 [Nm] - screw tightening torque M10
T.2 = 482 [Nm] - admissible shaft torque (N.B. When choosing a shaft, always check the admissible torque).
T.3 = 75 [Nm] - torque wrench setting 22



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Table of variations

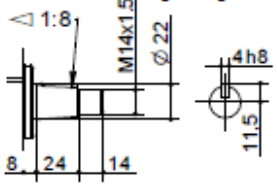
ø50.8 FLANGE

XV-3P

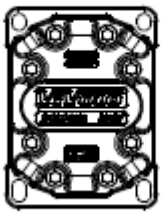
ø50.8 FLANGE

Right rotation	
	02

Shaft

CO001 - Tapered T.2 = 482 [Nm] 	A

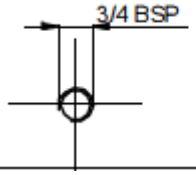
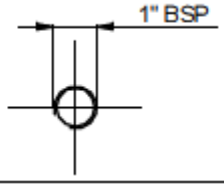
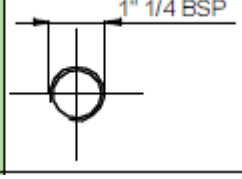
Cover

Right rotation	
	A

Displacement

TYPE	CODE
XV-3P/18	68
XV-3P/21	70
XV-3P/27	72
XV-3P/32	74
XV-3P/38	78
XV-3P/43	79
XV-3P/47	80
XV-3P/54	82
XV-3P/64	85
XV-3P/74	87

Body (threads/flanges)

	D		E		F

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INTRODUCTION XV-3P

Summary: Displacements - Pressures - Speeds

XV-3P	**XV-3P/18**	17.37 cm^3/rev	320 bar	700 rpm	3000 rpm
	XV-3P/21	21.10 cm^3/rev	300 bar	700 rpm	3000 rpm
	XV-3P/27	26.97 cm^3/rev	270 bar	700 rpm	3000 rpm
	XV-3P/32	32.27 cm^3/rev	270 bar	700 rpm	3000 rpm
	XV-3P/38	38.47 cm^3/rev	270 bar	700 rpm	2800 rpm
	XV-3P/43	43.44 cm^3/rev	250 bar	700 rpm	2800 rpm
	XV-3P/47	47.16 cm^3/rev	250 bar	700 rpm	2800 rpm
	XV-3P/51	50.88 cm^3/rev	250 bar	700 rpm	2800 rpm
	XV-3P/54	54.60cm^3/rev	250 bar	700 rpm	2300 rpm
	XV-3P/61	60.81 cm^3/rev	220 bar	700 rpm	2300 rpm
	XV-3P/64	64.53 cm^3/rev	220 bar	700 rpm	2300 rpm
	XV-3P/70	70.74 cm^3/rev	210 bar	700 rpm	2300 rpm
	XV-3P/74	74.46 cm^3/rev	190 bar	700 rpm	2300 rpm
	XV-3P/90	86.87 cm^3/rev	160 bar	700 rpm	2300 rpm

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

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TORQUES ALLOWED ON SHAFT:

FORMULA FOR EVALUATING SHAFT	SHAFT [IDENTIFIER] - CODE - DESCRIPTION	T.2 [Nm]
$T.2 \leq \frac{vi \times \Delta p}{20 \times \pi \times \eta m}$ **T.2** = max. torque allowed by shaft [Nm]	XV-3P [A] - CO001 - Tapered 1:8 - ø22 – M14x1.5 - key thk.4	482

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 pump shaft may be subject.
Always make sure that the torque applied is less than or equal to the admissible torque of the shaft.
Do not apply a direct axial or radial load on the pump 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.

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 °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. inlet fluid suction pressure (IN)	0.02-0.08 bars
Max. inlet fluid pressure (IN)	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
Use of water-glycol (HF-C)	max n. of revolutions 1100 rpm; max pressure 170 bars

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

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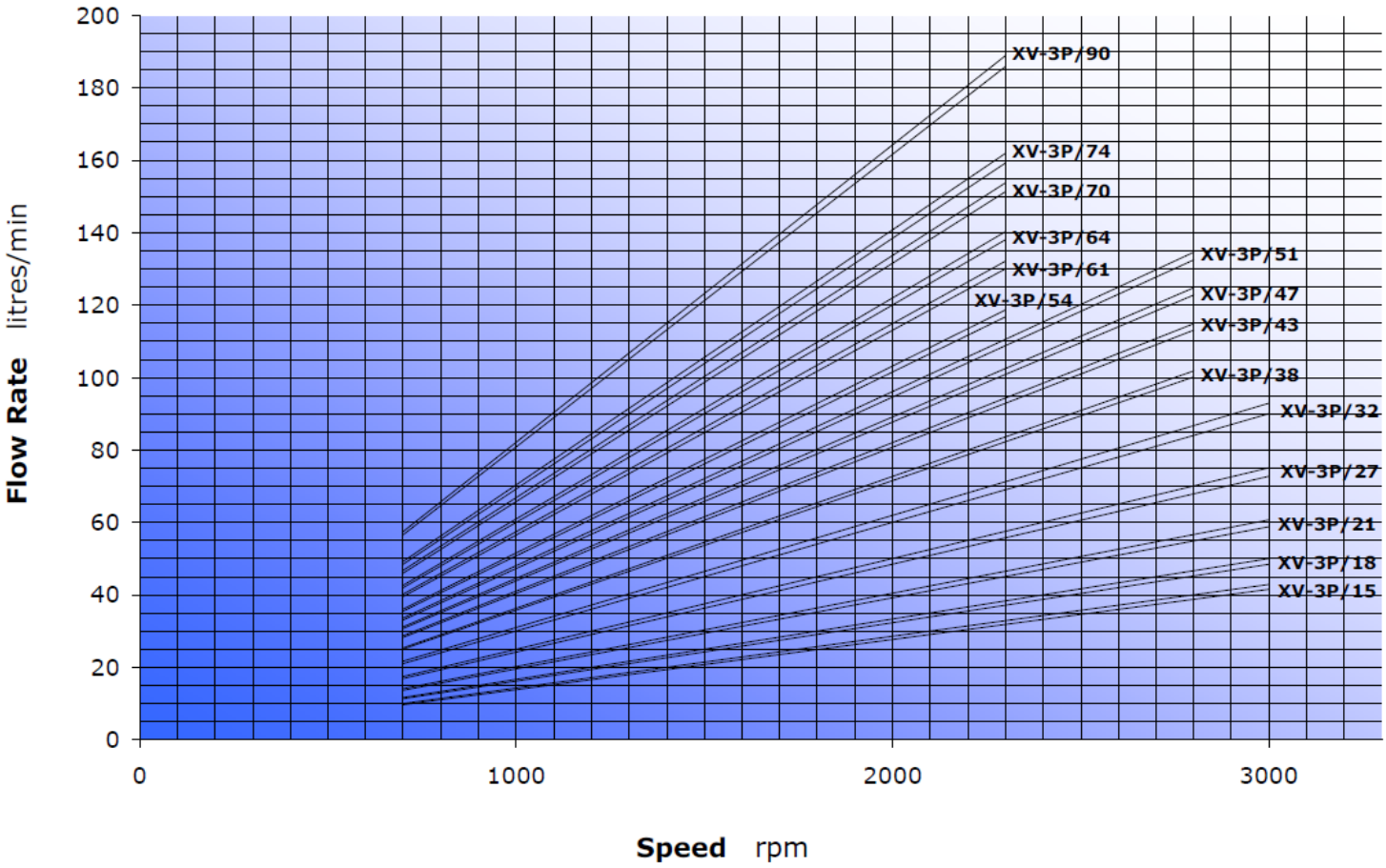
Constructive features

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 excellen mechanical features and high anti-frictior 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°C 80 Shore, thermal resistance 200°C
BACK-UP RINGS	Virgin PTFE Tecnil Q3	

VIVOLO BOLOGNA - ITALY

CHARACTERISTIC CURVES — XV-3P

XV-3P CHARACTERISTIC FLOW RATE CURVES



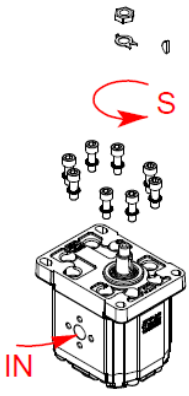
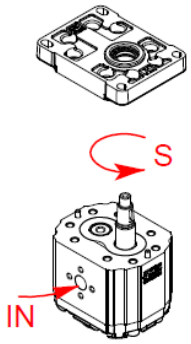
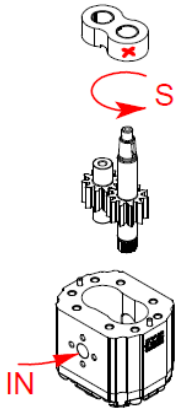
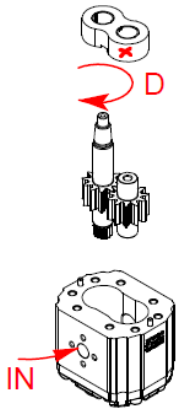
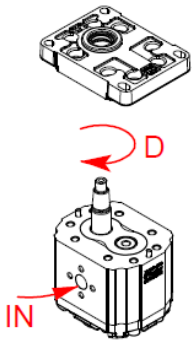
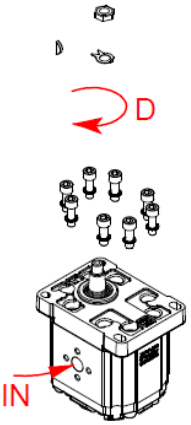
ViVOLO BOLOGNA - ITALY

Changing the direction of pump rotation

XV-3P

XV3-P with Flange ø50,8 (ref. da XP- 301 a: XP- 302)

When changing the direction of rotation of the XV-3P pump, it is not necessary to change the flange, as the same one is used.
When disassembling and reassembling the pump, 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 pump.

Flange ø50,8 (ref. da XP- 301 a: XP- 302)					
					
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 never** 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.	Replace the screws and tighten the nuts with a torque of 60 Nm to 65 Nm. Check that the shaft turns on completing the operation.
Note: with this rotation change system, the **inlets** and **outlets** remain unchanged.					