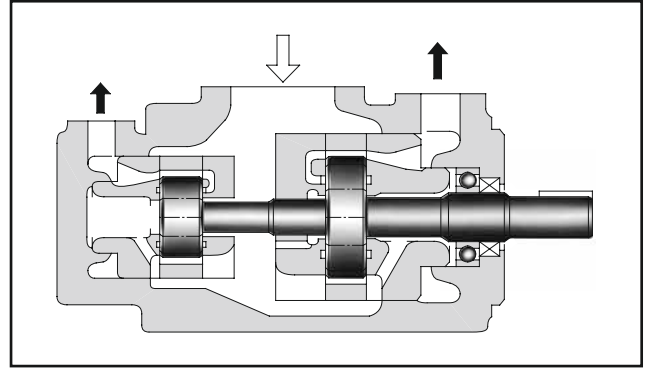
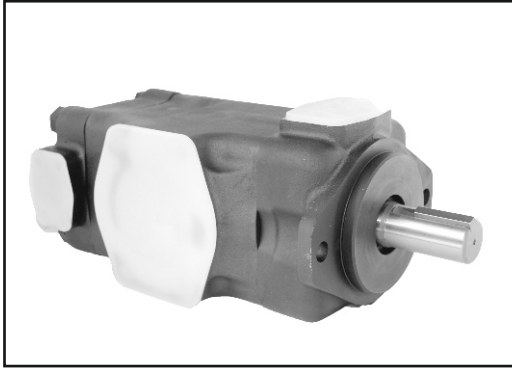


# H-V/ VQ Series Low noise fixed displacement vane pumps

## DOUBLE PUMPS



### ORDERING CODE

**H-2520V / VQ - 21 - A - 14 - 1 - CC - (LH) - 22**

1 2 3 4 5 6 7 8 9

**1** Low noise fixed displ. vane pump

- H-2520V / VQ Series
- H-3520V / VQ Series
- H-3525V / VQ Series
- H-4520V / VQ Series
- H-4525V / VQ Series
- H-4535V / VQ Series

**2** Shaft end displacement code

Series	Displacement
H-25*V / VQ Series	10,12,14,15,17,19,21
H-35*V / VQ Series	21,25,30,32,35,38,45
H-45*V / VQ Series	42,45,50,57,60,66,75

**3** Port Connections

"A" SAE 4Bolt Flange

**4** Cover end displacement code

Series	Displacement
H-*20V / VQ Series	2,3,4,5,6,7,8,9,11,12,14
H-*25V / VQ Series	10,12,14,15,17,19,21
H-*35V / VQ Series	21,25,30,32,35,38,45

**5** Shaft

- 1 parallel sq. key H-2520V / VQ
- 86 parallel sq. key H-3520V / VQ
- 11 splined H-3525V / VQ
- H-4520V / VQ
- H-4525V / VQ
- H-4535V / VQ

**6** Shaft end pump (viewed from cover end)

- A: opposite inlet
- B: 90' CCW from inlet
- C: inline with inlet
- D: 90' CW from inlet

**7** Cover end pump (viewed from cover end)

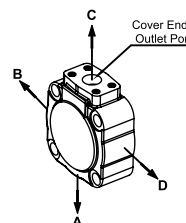
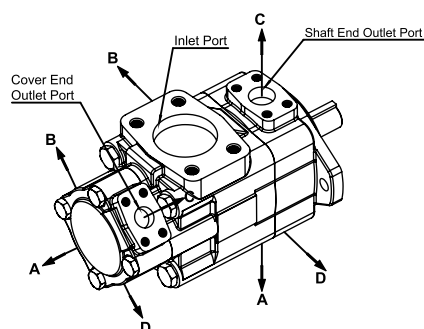
- A: 135' CCW from inlet
- B: 45' CCW from inlet
- C: 45' CW from inlet
- D: 135' CW from inlet

**8** Rotation (viewed from shaft end)

- Omit for CW
- LH: CCW

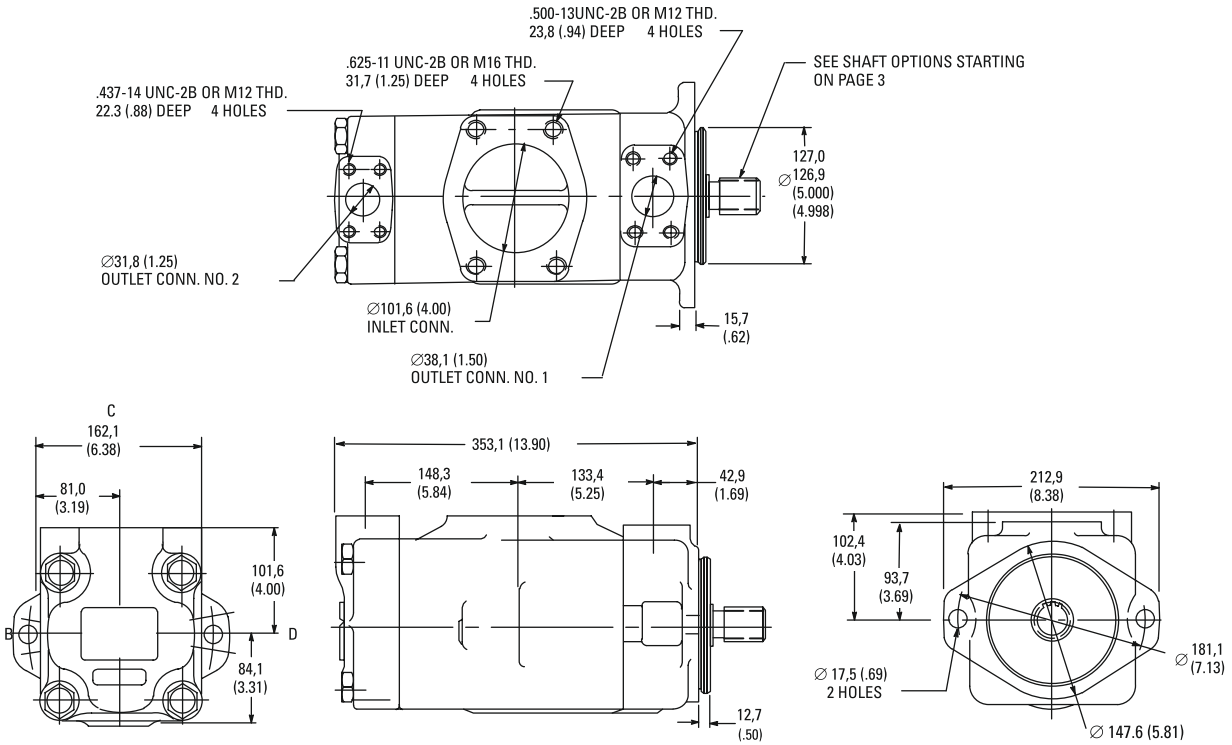
**9** Design no.

- 22 For V Series
- 20 For VQ Series



**H-4535 V / VQ**

Dimensions in millimeters (inches)



Model Numbers	Approx. Weight (kg)
H-4535V/VQ	53.5

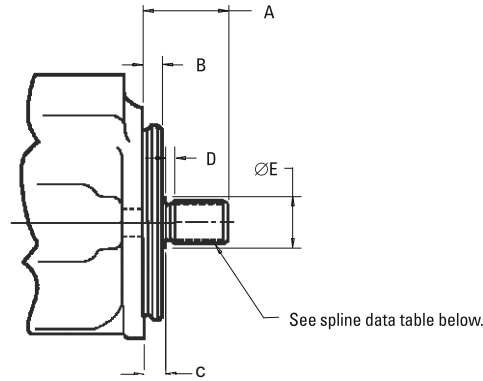
**Specifications**

Model	Shaft End Pump			Cover End Pump			Max. Speed min	Minimum Speed min <sup>-1</sup>
	Displacement	Nominal Displacement 7 BAR cm <sup>3</sup> /rev	Max. Working Press. BAR	Displacement	Nominal Displacement 7 BAR cm <sup>3</sup> /rev	Max. Working Press. BAR		
H-4535 V / VQ	42	134.0	175	21	66.7	175	1800	600
	45	140.0		25	79.2			
	50	156.0		30	95.0			
	57	178.0		32	100.0			
	60	189.0	140	35	109.0	140		
	66	207.0		38	118.0			
	75	237.0		45	140.0			

# SHAFT TYPES

## Splined Shafts

Dimensions in millimeters (inches)



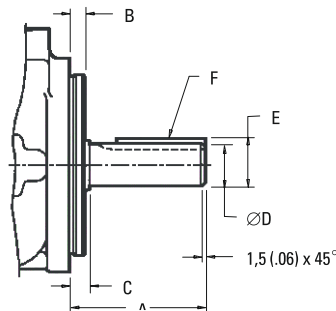
Pump	Shaft Code	A	B	C	D	ØE	Spline Data (See below.)
H-2520V / VQ	11	44,5 (1.75)	9,53 (.375)	11,1 (.437)	4,1 (.16)	27,8 (1.09)	A
H-3520V / VQ H-3525V / VQ	11	58,7 (2.31)	9,53 (.375)	11,1 (.437)	6,4 (.25)	35,1 (1.38)	D
H-4520V / VQ H-4525V / VQ H-4535V / VQ	11	61,9 (2.44)	12,7 (.500)	14,3 (.565)	9,7 (.38)	39,6 (1.56)	D

Spline Data Table (Involute splines from above chart)						
Spline Data Reference	Number of Teeth	Pitch	Major Diameter	Form Diameter	Minor Diameter	Minor Diameter
A	13	16/32	22,17 (.873) 22,15 (.872)	19,03 (.749)	18,16 (.715)	Major dia. fit
D	14	12/24	31,70 (1.248) 31,67 (1.247)	27,4 (1.08)	26,42 (1.040)	Major dia. fit

## Straight Key Shafts

Dimensions in millimeters (inches)



Pump	Shaft Code	A	B	C	ØD	E	F key width x length
H-2520V / VQ	1	58,7 (2.31)	9,53 (.375)	11,1 (.435)	22,23 (.875) 22,20 (.874)	24,5 (.966) 24,4 (.961)	4,75 (.187) x 32 (1.25)
	86	77,7 (3.06)	9,53 (.375)	11,1 (.435)	25,37 (.999) 25,35 (.998)	28,3 (1.11) 28,1 (1.10)	6,36 (.250) x 50,8 (2.00)
H-3520V / VQ H-3525V / VQ	1	73,2 (2.88)	9,53 (.375)	11,1 (.435)	31,75 (1.250) 31,70 (1.248)	35,36 (1.39) 34,10 (1.38)	7,94 (.313) x 38,1 (1.50)
	86	85,9 (3.38)	9,53 (.375)	11,1 (.435)	34,90 (1.374) 34,87 (1.373)	38,6 (1.52) 38,3 (1.51)	7,92 (.312) x 54 (2.13)
H-4520V / VQ H-4525V / VQ H-4535V / VQ	1	62,0 (2.44)	12,7 (.500)	14,22 (.560)	31,75 (1.250) 31,70 (1.248)	35,36 (1.39) 34,10 (1.38)	7,92 (.312) x 28,5 (1.12)
	86	87,4 (3.44)	12,7 (.500)	14,22 (.560)	38,07 (1.499) 38,05 (1.498)	42,4 (1.67) 42,1 (1.66)	9,53 (.375) x 50,8 (2.00)