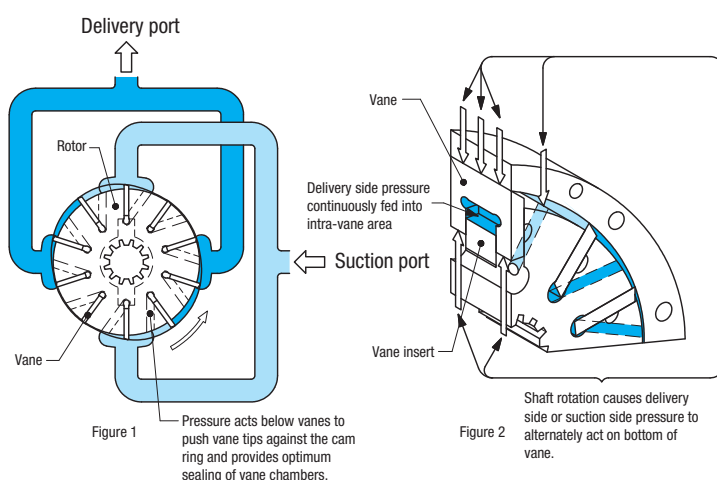


VQ series High performance pump for mobile applications

The VQ Series high performance intravane pump is designed for mobile applications. The pump's flexible side plate mechanism provides higher volumetric efficiency compared to conventional vane pumps and provides high resistance to seizure during startups under hot or cold environment.

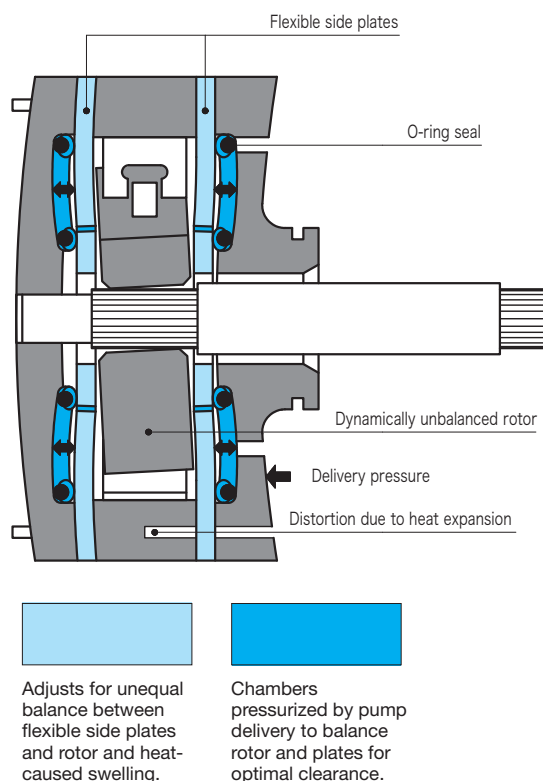
1. Stable operation at high pressures of 21 MPa and high speeds of 2700 min⁻¹. (For further details, refer to the specifications.)
2. Employs pressure balanced flexible side plates.
 - The clearance between the rotor and side plates is maintained automatically and correctly.
 - The instantaneous overload and thermal expansion spikes at pump startup are offset by these plates, and the resistance against seizure during high and low temperature starts has been improved.
3. Cartridge kit configuration of main rotating elements for ease in maintenance.
4. Single pump, (3 series, 11 types) and double pump (6 series, 95 types) configurations allow selection of optimum model to meet the application.

Intravane Mechanism



Flexible Side Plate Mechanism

The flexible side plates consist of thin bronze and steel plates. Seals located between both support plates and flexible side plates create pressure chambers. Pump delivery pressure fills these chambers and act to provide uniform force on the flexible side plates toward the rotor. Rotation causes generation of countering flow pressure between the rotor and flexible side plates pushing the flexible side plates outward. These two forces are automatically balanced to maintain optimal clearance.

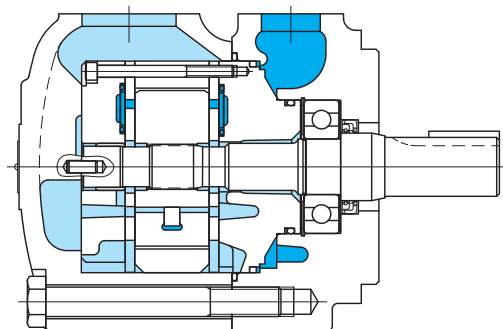
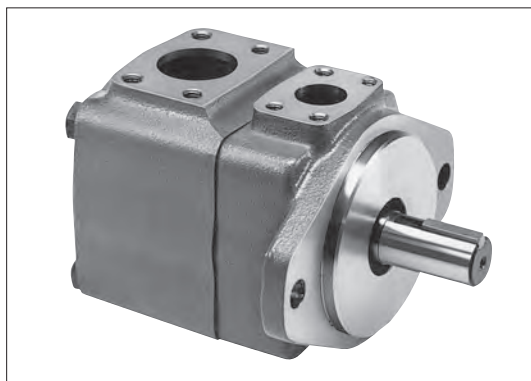


High performance single fixed displacement vane pumps for mobile applications

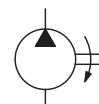
VQ series

B
5-1

Fixed Displacement Vane Pumps



Functional Symbol



Model Code

(F3-)35VQ25A(F)-86C20(L)-JA

1

2

3

4

5

6

7

8

9

1 Hydraulic fluid

Omit: mineral oil based fluid

F3: Phosphate ester fluid

2 High performance single fixed displacement vane pump for mobile applications

25VQ Series

35VQ Series

45VQ Series

3 Pump displacement code

Series	Displacement Code
25VQ	12, 14, 17, 21
35VQ	25, 30, 35, 38
45VQ	42, 50, 60

4 Port piping connection

A: SAE 4 bolt flange connection

5 Pump mounting

Omit: flange mounting

F: foot mounting

6 Shaft end configuration

1: parallel sq. key (25VQ)

86: parallel sq. key (35VQ, 45VQ)

11: spline shaft

7 Delivery port position (viewed from cover end)

A: opposite suction port

B: 90° CCW from suction port

C: inline with suction port

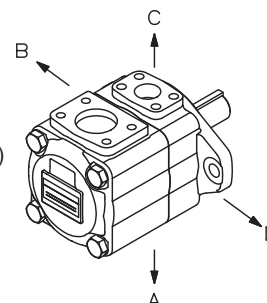
D: 90° CW from suction port

8 Design no.

9 Rotation (viewed from shaft end)

Omit: CW

L: left rotation (counter-clockwise)



Specifications

Model Code	Displacement Code	Del. at 1000 min ⁻¹ 0.7 Mpa L/min	Anti-Wear Mineral Oil		Phosphate Ester Fluid		Min. Speed min ⁻¹	Weight kg
			Max. Working Pressure MPa	Max. Speed min ⁻¹	Max. Working Pressure MPa	Max. Speed min ⁻¹		
25VQ	12	38.3	21	2700	14	1800	600	14.5
	14	43.3		2500		1600		
	17	52.5						
	21	65.0						
35VQ	25	79.2	21	2500	14	1600	600	22.7
	30	95.0		2400				
	35	109.0						
	38	118.0						
45VQ	42	134.0	17.5	2200	14	1500	600	34.0
	50	156.0						
	60	189.0						

Note: • As max. working pressure may be limited for general industrial machinery applications, consult Tokyo Keiki.

• Max. speed is based on 0 MPa (gauge pressure) suction pressure.

Max. speed will be limited by negative suction pressure. Consult Tokyo Keiki in this case.

TOKYO KEIKI INC.

Delivery, Shaft Input Power (at 20 mm²/s) (typical examples)

Model Code	Speed min ⁻¹	Delivery L/min					Shaft Input kW				
		0. 7 MPa	7 MPa	14 MPa	17. 5 MPa	21 MPa	0. 7 MPa	7 MPa	14 MPa	17. 5 MPa	21 MPa
25VQ-12	1000	38. 3	35. 9	33. 2	31. 7	30. 3	1. 0	5. 8	11. 1	13. 7	16. 2
	1200	46. 0	43. 6	40. 9	39. 4	38. 0	1. 1	6. 6	13. 3	16. 3	19. 4
	1500	57. 5	55. 1	52. 4	50. 9	49. 5	1. 3	8. 5	16. 4	20. 3	24. 1
	1800	69. 0	66. 6	63. 9	62. 4	61. 0	1. 4	10. 0	19. 7	24. 3	28. 8
	2000	76. 6	73. 9	71. 3	70. 0	68. 6	1. 6	11. 1	21. 7	26. 7	31. 7
	2200	84. 3	81. 6	79. 0	77. 6	76. 3	1. 7	12. 1	23. 7	29. 1	34. 5
	2400	91. 9	89. 3	86. 6	85. 3	84. 0	1. 9	13. 2	25. 6	31. 5	37. 3
	2500	95. 8	93. 1	90. 4	89. 1	87. 8	2. 0	13. 7	26. 6	32. 7	38. 6
	2700	103. 4	100. 8	98. 1	96. 8	95. 5	2. 1	14. 8	28. 5	35. 0	41. 3
25VQ-14	1000	43. 3	40. 1	36. 7	35. 7	34. 1	1. 2	6. 5	12. 4	15. 4	18. 2
	1200	52. 0	48. 4	45. 4	44. 4	42. 8	1. 3	7. 6	14. 8	18. 4	21. 8
	1500	65. 0	61. 8	58. 4	57. 4	55. 8	1. 5	9. 6	18. 4	22. 8	27. 1
	1800	78. 0	74. 8	71. 4	70. 4	68. 8	1. 7	11. 3	21. 9	27. 2	32. 3
	2000	86. 6	83. 5	80. 5	79. 0	77. 4	1. 9	12. 5	24. 1	30. 0	35. 5
	2200	95. 3	92. 2	89. 1	87. 6	86. 1	2. 1	13. 7	26. 3	32. 6	38. 7
	2400	103. 9	100. 9	97. 8	96. 3	94. 7	2. 2	14. 9	28. 5	35. 2	41. 7
	2500	108. 3	105. 2	102. 1	100. 6	99. 1	2. 3	15. 5	29. 5	36. 5	43. 2
	2700	116. 9	113. 9	110. 8	109. 3	107. 7	2. 5	16. 7	31. 6	39. 0	46. 1
25VQ-17	1000	52. 5	49. 6	46. 4	44. 4	42. 7	1. 4	7. 5	14. 6	17. 9	21. 3
	1200	63. 0	60. 6	56. 9	54. 9	53. 2	1. 5	9. 2	17. 3	21. 4	25. 4
	1500	78. 8	75. 9	72. 7	70. 7	69. 0	1. 7	11. 0	21. 5	26. 6	31. 6
	1800	94. 5	91. 6	88. 4	86. 4	84. 7	1. 9	13. 2	25. 6	31. 8	37. 8
	2000	105. 0	101. 7	98. 5	96. 8	95. 2	2. 2	14. 5	28. 3	35. 2	41. 9
	2200	115. 5	112. 2	109. 0	107. 3	105. 7	2. 4	16. 0	30. 9	38. 5	45. 8
	2400	126. 0	122. 7	119. 5	117. 8	116. 2	2. 6	17. 4	33. 6	41. 7	49. 7
	2500	131. 3	128. 0	124. 7	123. 1	121. 5	2. 7	18. 1	34. 9	43. 4	51. 7
	2700	—	—	—	—	—	—	—	—	—	—
25VQ-21	1000	65. 0	62. 1	58. 9	56. 9	55. 2	1. 6	9. 4	17. 9	22. 2	26. 3
	1200	78. 0	74. 9	71. 9	69. 9	68. 2	1. 8	11. 2	21. 4	26. 5	31. 4
	1500	97. 5	94. 6	91. 4	89. 4	87. 7	2. 1	13. 7	26. 6	32. 9	39. 1
	1800	117. 0	113. 9	110. 9	108. 9	107. 2	2. 3	16. 3	31. 7	39. 4	46. 8
	2000	130. 0	126. 7	123. 5	121. 8	120. 2	2. 5	18. 0	34. 9	43. 4	51. 6
	2200	143. 0	139. 7	136. 5	134. 8	133. 2	2. 8	19. 6	38. 1	47. 3	56. 2
	2400	156. 0	152. 7	149. 5	147. 8	146. 2	3. 0	21. 3	41. 1	51. 1	60. 8
	2500	162. 5	159. 2	156. 0	154. 3	152. 7	3. 1	22. 1	42. 6	52. 9	63. 1
	2700	—	—	—	—	—	—	—	—	—	—

Delivery, Shaft Input Power (at 20 mm²/s) (typical examples)

Model Code	Speed min ⁻¹	Delivery L/min					Shaft Input kW				
		0. 7 MPa	7 MPa	14 MPa	17. 5 MPa	21 MPa	0. 7 MPa	7 MPa	14 MPa	17. 5 MPa	21 MPa
35VQ-25	1000	79. 2	73. 4	67. 0	64. 0	60. 8	1. 8	10. 9	20. 9	25. 6	30. 3
	1200	95. 0	88. 9	82. 8	79. 8	76. 6	2. 0	12. 7	25. 0	30. 6	36. 3
	1500	119. 0	112. 9	106. 8	103. 8	100. 6	2. 3	16. 0	31. 0	38. 0	45. 2
	1800	142. 0	135. 9	129. 8	126. 8	123. 6	2. 6	19. 1	37. 1	45. 5	54. 0
	2000	158. 4	152. 3	146. 2	143. 1	140. 0	2. 9	21. 0	41. 0	50. 5	60. 1
	2200	174. 2	168. 1	162. 0	158. 9	155. 9	3. 1	23. 0	45. 0	55. 5	66. 0
	2400	190. 1	184. 0	177. 8	174. 8	171. 7	3. 4	24. 9	48. 9	60. 5	72. 0
	2500	198. 0	191. 9	185. 8	182. 7	179. 6	3. 5	25. 9	50. 8	62. 9	75. 0
35VQ-30	1000	95. 0	88. 3	80. 7	77. 8	74. 2	1. 8	12. 8	25. 2	31. 1	37. 0
	1200	114. 0	106. 9	99. 7	96. 8	93. 2	2. 0	15. 3	30. 1	37. 2	44. 3
	1500	142. 0	135. 9	127. 7	124. 8	121. 2	2. 4	19. 0	37. 4	46. 4	55. 2
	1800	171. 0	163. 9	156. 7	153. 8	150. 2	2. 7	22. 6	44. 9	55. 6	66. 1
	2000	190. 0	183. 1	176. 1	172. 7	169. 2	3. 0	25. 1	49. 8	61. 7	73. 5
	2200	209. 0	202. 1	195. 1	191. 7	188. 2	3. 3	27. 6	54. 7	67. 9	80. 9
	2400	228. 0	221. 1	214. 1	210. 7	207. 2	3. 6	30. 1	59. 6	74. 0	88. 2
	2500	237. 5	230. 6	223. 6	220. 2	216. 7	3. 7	31. 4	62. 1	77. 1	91. 9
35VQ-35	1000	109. 0	102. 9	94. 9	92. 0	88. 4	2. 2	14. 5	28. 1	35. 0	41. 5
	1200	131. 0	123. 9	116. 7	113. 8	110. 2	2. 5	17. 3	33. 7	41. 8	49. 7
	1500	164. 0	156. 9	149. 7	146. 8	143. 2	2. 9	21. 3	41. 8	52. 0	61. 8
	1800	196. 0	188. 9	181. 7	178. 8	175. 2	3. 3	25. 4	51. 4	62. 3	74. 1
	2000	218. 0	211. 1	204. 1	200. 7	197. 2	3. 6	28. 1	56. 6	69. 0	82. 3
	2200	239. 8	232. 9	225. 9	222. 5	219. 0	3. 9	30. 8	61. 7	75. 8	90. 4
	2400	261. 6	254. 7	247. 7	244. 3	240. 8	4. 3	33. 5	66. 7	82. 4	98. 5
	2500	—	—	—	—	—	—	—	—	—	—
35VQ-38	1000	118. 0	110. 9	101. 7	99. 1	95. 1	2. 7	15. 8	30. 4	37. 6	44. 6
	1200	142. 0	133. 8	125. 7	122. 8	118. 8	3. 0	18. 9	36. 2	44. 9	53. 2
	1500	177. 0	169. 9	160. 7	157. 8	153. 8	3. 4	23. 1	44. 9	55. 8	66. 2
	1800	213. 0	204. 8	196. 7	193. 8	189. 8	3. 9	27. 5	53. 6	66. 7	79. 2
	2000	236. 0	228. 3	220. 5	216. 6	212. 8	4. 3	30. 4	59. 5	74. 0	88. 1
	2200	259. 6	251. 9	244. 1	240. 2	236. 4	4. 6	33. 4	65. 4	81. 4	97. 1
	2400	283. 2	275. 5	267. 7	263. 8	260. 0	5. 0	36. 3	71. 2	88. 7	106. 0
	2500	—	—	—	—	—	—	—	—	—	—

B
5-3

Fixed Displacement Vane Pumps

Delivery, Shaft Input Power (at 20 mm²/s) (typical examples)

Model Code	Speed min ⁻¹	Delivery L/min				Shaft Input kW			
		0. 7 MPa	7 MPa	14 MPa	17. 5 MPa	0. 7 MPa	7 MPa	14 MPa	17. 5 MPa
45VQ-42	1000	134. 0	124. 8	114. 6	109. 7	2. 7	18. 0	35. 9	44. 4
	1200	161. 0	151. 8	141. 6	136. 7	3. 0	21. 4	42. 8	53. 0
	1500	201. 0	191. 8	181. 6	176. 7	3. 5	26. 5	53. 3	66. 0
	1800	241. 0	231. 8	221. 6	216. 7	4. 0	31. 6	63. 7	79. 0
	2000	268. 0	258. 2	248. 4	243. 5	4. 4	35. 3	70. 1	87. 5
	2200	294. 8	285. 0	275. 2	270. 3	4. 9	38. 9	76. 9	95. 8
45VQ-50	1000	156. 0	146. 8	136. 6	131. 7	3. 1	20. 6	40. 2	50. 3
	1200	187. 0	177. 8	167. 6	162. 7	3. 5	24. 5	47. 9	60. 2
	1500	234. 0	224. 8	214. 6	209. 7	4. 0	30. 3	59. 7	74. 8
	1800	280. 0	270. 8	260. 6	255. 7	4. 7	36. 1	71. 3	89. 6
	2000	312. 0	302. 2	292. 4	287. 5	5. 1	40. 2	79. 2	99. 4
	2200	343. 2	333. 4	323. 6	318. 7	5. 6	44. 4	87. 1	109. 0
45VQ-60	1000	189. 0	177. 8	165. 5	159. 6	4. 0	24. 9	47. 8	59. 8
	1200	227. 0	215. 8	203. 5	197. 6	4. 5	29. 6	57. 1	71. 4
	1500	284. 0	272. 8	260. 5	254. 6	5. 2	36. 5	71. 0	88. 8
	1800	340. 0	328. 8	316. 5	310. 6	5. 9	43. 5	84. 8	106. 1
	2000	378. 0	366. 2	354. 3	348. 4	6. 4	48. 4	94. 2	117. 7
	2200	415. 8	404. 0	392. 1	386. 2	6. 9	53. 1	103. 5	129. 2

Notes on Operation

- See page B0-4 for Notes on Using Vane Pumps.

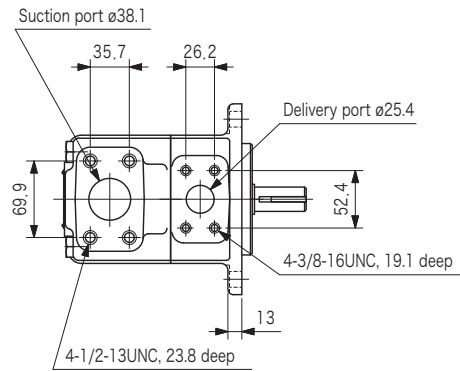
Piping Flanges (Compliant to SAE J 518c Standard Pressure)

- Flanges sold separately.
- Refer to table below to order flanges (with hex socket bolts, spring washers, and O-rings).
- See page R7-1 for dimensions, etc.

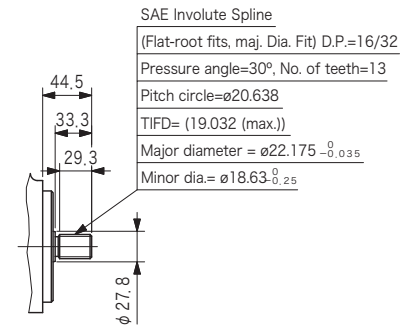
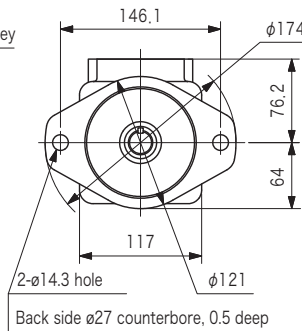
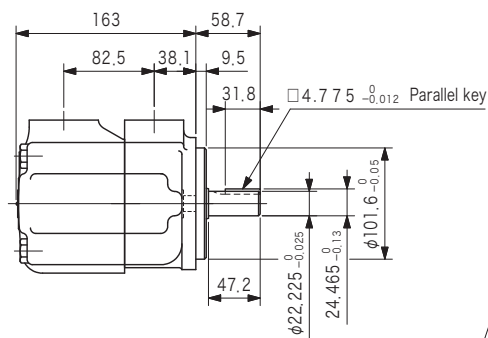
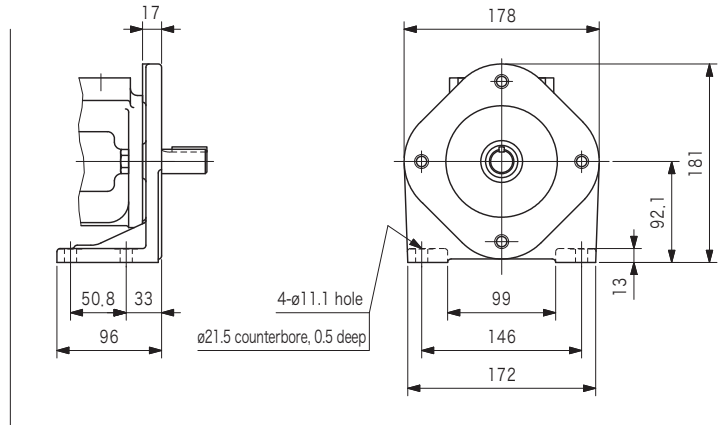
Pump Model	Flange Type					
	Suction Port			Delivery Port		
	Size	Threaded	Welded	Size	Threaded	Welded
25VQ	1-1/2	FL1-12-12P-10-JA-S4-J	FL1-12-12W-10-JA	1	FL1-8-08P-10-JA-S4-J	FL1-8-08W-10-JA
35VQ	2	FL1-16-16P-10-JA-S4-J	FL1-16-16W-10-JA	1-1/4	FL1-10-10P-10-JA-S4-J	FL1-10-10W-10-JA
45VQ	3	FL1-24-24P-10-JA-S4-J	FL1-24-24W-10-JA	1-1/2	FL1-12-12P-10-JA-S4-J	FL1-12-12W-10-JA

Dimensions

25VQ (Flange mounting)

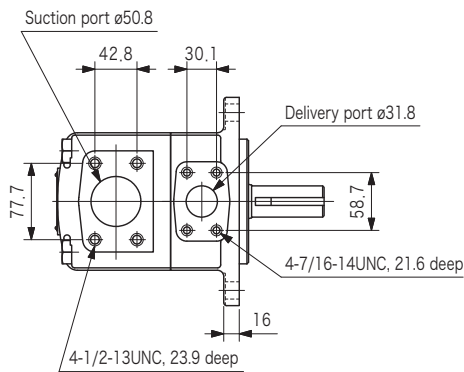


(Foot mounting)

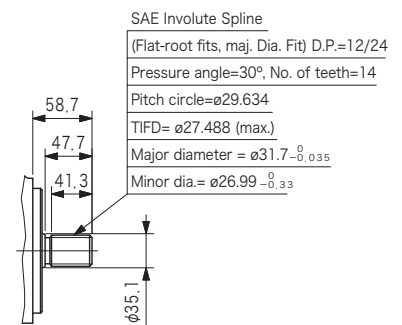
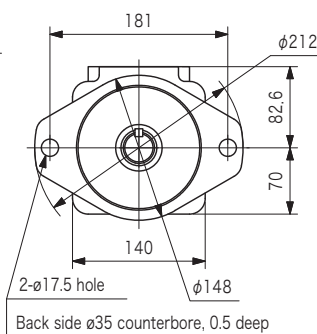
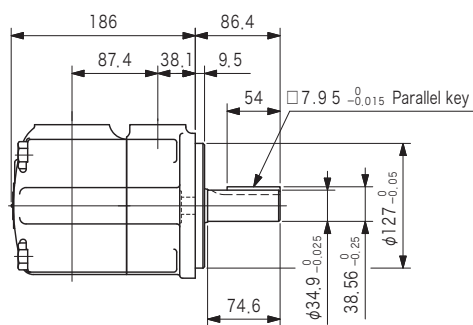
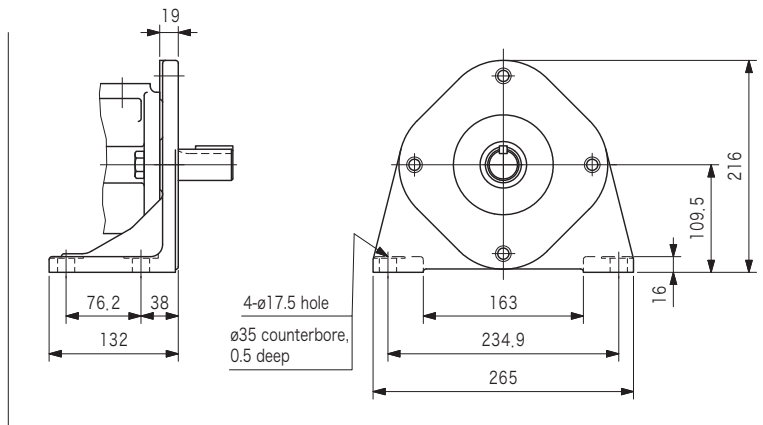


No. 11 Spline Shaft End Shape

35VQ (Flange mounting)



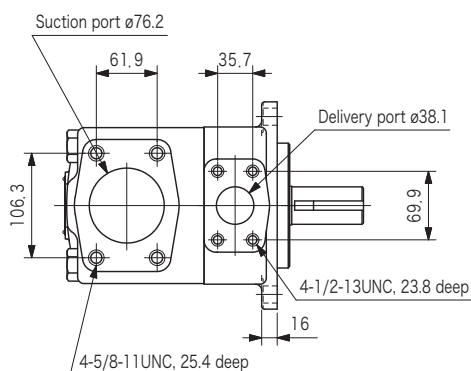
(Foot mounting)



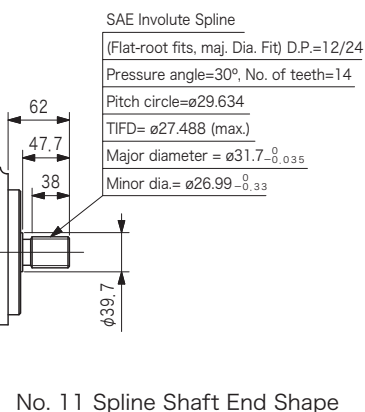
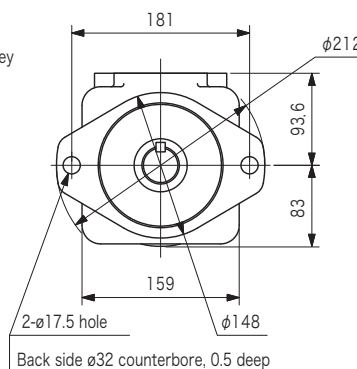
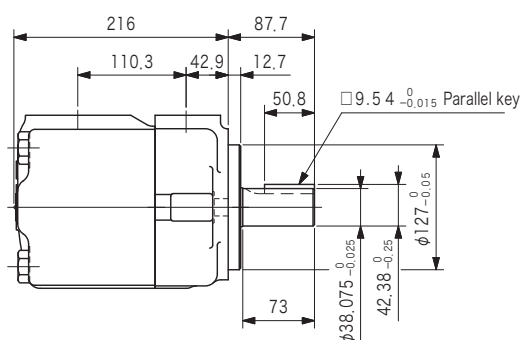
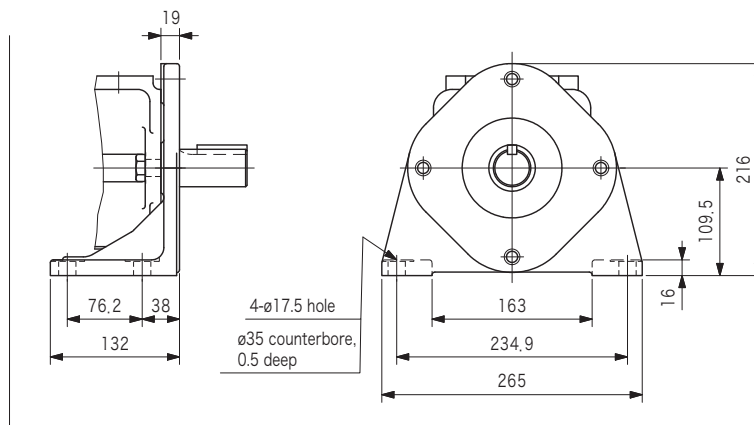
No. 11 Spline Shaft End Shape

Dimensions

45VQ (Flange mounting)



(Foot mounting)



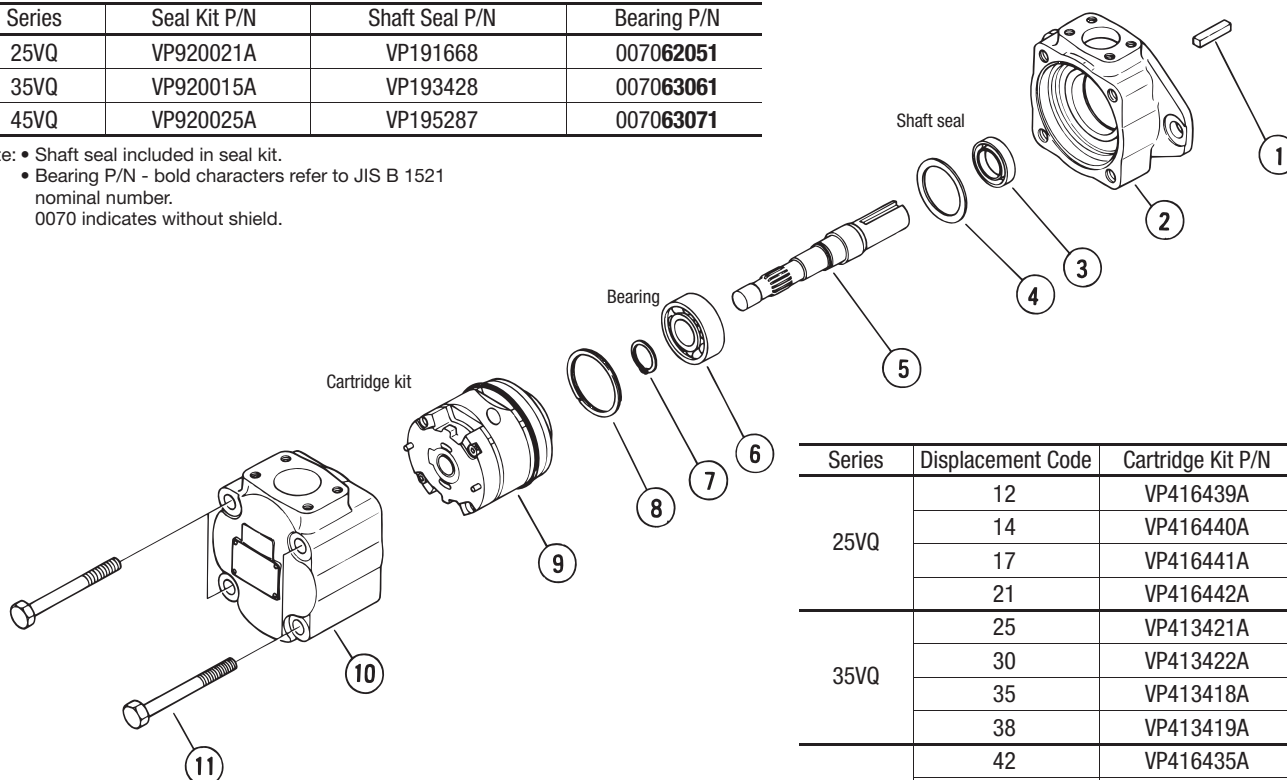
No. 11 Spline Shaft End Shape

Construction

Series	Seal Kit P/N	Shaft Seal P/N	Bearing P/N
25VQ	VP920021A	VP191668	0070 62051
35VQ	VP920015A	VP193428	0070 63061
45VQ	VP920025A	VP195287	0070 63071

Note:

- Shaft seal included in seal kit.
- Bearing P/N - bold characters refer to JIS B 1521 nominal number.
- 0070 indicates without shield.



Series	Displacement Code	Cartridge Kit P/N
25VQ	12	VP416439A
	14	VP416440A
	17	VP416441A
	21	VP416442A
35VQ	25	VP413421A
	30	VP413422A
	35	VP413418A
	38	VP413419A
45VQ	42	VP416435A
	50	VP416436A
	60	VP416437A

Note:

- Cartridge kit includes seals excluding shaft seal.
- "L" is added as suffix to cartridge kit P/N for left hand rotation cartridge kit.

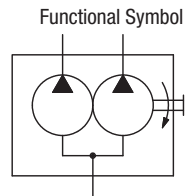
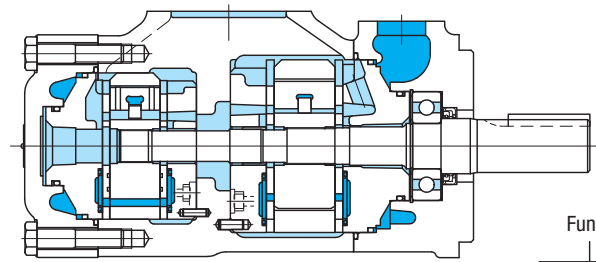
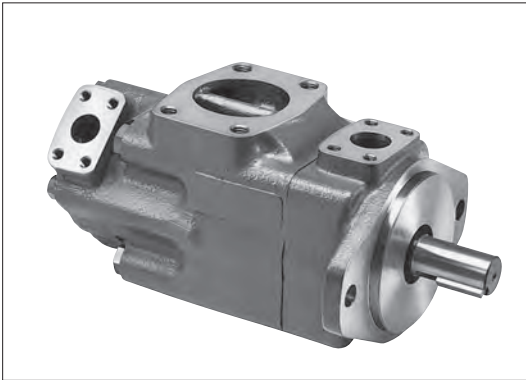
TOKYO KEIKI INC.

High performance double fixed displacement vane pumps for mobile applications

VQ series

B
6-1

Fixed Displacement Vane Pumps



Model Code

(F3)-3525VQ38A17(F)-86CC20(L)-JA

1

2

3

4

5

6

7

8

9

10

11

1 Hydraulic fluid

Omit: mineral oil based fluid

F3: Phosphate ester fluid

2 High performance double fixed displacement vane pump for mobile applications

2520VQ Series

3520, 3525VQ Series

4520, 4525, 4535VQ Series

3 Shaft end pump displacement

Series	Displacement Code
25**VQ	12, 14, 17, 21
35**VQ	25, 30, 35, 38
45**VQ	42, 50, 60

4 Port piping connection

A: SAE 4 bolt flange connection

5 Cover end pump displacement

Series	Displacement Code
**20VQ	5, 8, 11, 12, 14
**25VQ	12, 14, 17, 21
**35VQ	25, 30, 35, 38

6 Pump mounting

Omit: flange mounting

F: foot mounting

7 Shaft end configuration

1: parallel sq. key (2520VQ)

86: parallel sq. key

11: spline shaft

8 Shaft end delivery port position (viewed from cover end)

A: opposite suction port

B: 90° CCW from suction port

C: inline with suction port

D: 90° CW from suction port

9 Cover end delivery port position (viewed from cover end)

2520, 3520, 3525, 4520, 4525VQ

A: 135° CCW from suction port

B: 45° CCW from suction port

C: 45° CW from suction port

D: 135° CW from suction port

4535VQ

A: opposite suction port

B: 90° CCW from suction port

C: inline with suction port

D: 90° CW from suction port

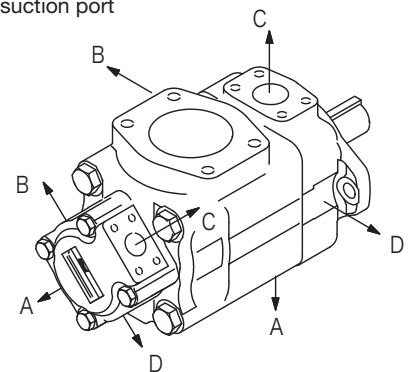
● 2520VQ

● 3520VQ

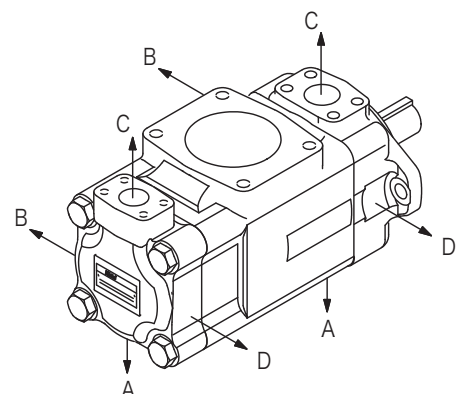
● 3525VQ

● 4520VQ

● 4525VQ



● 4535VQ



10 Design no.

11 Rotation (viewed from shaft end)

Omit: CW

L: left rotation (counter-clockwise)

TOKYO KEIKI INC.

Specifications

B
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Fixed Displacement Vane Pumps

Model Code	Shaft End Pump						Cover End Pump				Min. Speed min ⁻¹	Weight kg
	Displacement Code	Del. at 1000 min ⁻¹ 0.7 Mpa L/min	Anti-Wear Mineral Oil		Phosphate Ester Fluid		Displacement Code	Del. at 1000 min ⁻¹ 0.7 Mpa L/min	Max. Working Pressure MPa			
			Max. Working Pressure MPa	Max. Speed min ⁻¹	Max. Working Pressure MPa	Max. Speed min ⁻¹			Anti-Wear Mineral Oil	Phosphate Ester Fluid		
2520VQ	12	38.3	21	2700	14	1800	5	16.7	21	14	600	20.4
	14	43.3		1600								
	17	52.5				2500						
	21	65.0										
3520VQ	25	79.2	21	2500	14	1600	8	26.2	14	600	34.0	
	30	95.0		2400								
	35	109.0				11	35.0					
	38	118.0										
4520VQ	42	134.0	17.5	2200	14	1500	12	37.9	16	600	42.6	
	50	156.0					14	44.2	14			
	60	189.0										
3525VQ	25	79.2	21	2500	14	1600	12	38.3	21	14	600	34.5
	30	95.0		2400								
	35	109.0				14	43.3					
	38	118.0										
4525VQ	42	134.0	17.5	2200	14	1500	17	52.5	600	45.8		
	50	156.0					21	65.0				
	60	189.0										
4535VQ	42	134.0	17.5	2200	14	1500	25	79.0	21	14	600	53.5
	50	156.0					30	95.0				
	50	156.0					35	109.0				
	60	189.0					38	118.0				

Note: • As max. working pressure may be limited for general industrial machinery applications, consult Tokyo Keiki.

• Max. speed is based on 0 MPa (gauge pressure) suction pressure.

Max. speed will be limited by negative suction pressure. Consult Tokyo Keiki in this case.

Delivery, Shaft Input Power

Model Code	Delivery, Shaft Input	
	Shaft End Pump	Cover End Pump
2520VQ	Same as 25VQ Series (B40)	See table on next page.
3520VQ	Same as 35VQ Series (B41)	
4520VQ	Same as 45VQ Series (B42)	
3525VQ	Same as 35VQ Series (B41)	Same as 25VQ Series (B5-2)
4525VQ	Same as 45VQ Series (B42)	
4535VQ	Same as 45VQ Series (B42)	Same as 35VQ Series (B5-3)

Delivery, Shaft Input Power (at 20 mm²/s) (typical examples)

Model Code	Speed min ⁻¹	Delivery L/min					Shaft Input kW				
		0.7 MPa	7 MPa	14 MPa	17.5 MPa	21 MPa	0.7 MPa	7 MPa	14 MPa	17.5 MPa	21 MPa
20VQ-5	1000	16.7	15.7	14.7	14.2	13.6	0.4	2.9	4.9	6.1	7.3
	1200	20.0	19.0	18.0	17.5	16.9	0.5	3.3	5.9	7.3	8.7
	1500	25.0	24.0	23.0	22.5	21.9	0.6	4.0	7.4	9.2	10.9
	1800	30.0	29.0	28.0	27.5	26.9	0.6	4.3	8.8	10.9	13.0
	2000	33.4	32.4	31.4	30.9	30.3	0.7	4.8	9.6	11.9	14.2
	2200	36.7	35.7	34.7	34.2	33.7	0.7	5.3	10.5	13.0	15.4
	2400	40.1	39.1	38.0	37.5	37.0	0.8	5.7	11.3	14.0	16.6
	2500	41.8	40.7	39.7	39.2	38.7	0.8	6.0	11.7	14.5	17.2
20VQ-8	2700	45.1	44.1	43.1	42.5	42.0	0.9	6.4	12.5	15.5	18.4
	1000	26.2	24.2	22.6	21.1	20.1	0.5	4.0	6.8	8.5	10.1
	1200	31.5	29.5	27.9	26.4	25.4	0.6	4.6	8.2	10.2	12.1
	1500	39.4	37.4	35.8	34.3	33.3	0.8	5.6	10.2	12.7	15.1
	1800	47.2	45.2	43.6	42.1	41.1	0.8	6.7	12.0	15.1	17.9
	2000	52.4	50.4	48.3	47.3	46.3	0.9	7.4	13.3	16.7	19.9
	2200	57.6	55.6	53.6	52.5	51.5	1.0	8.0	14.6	18.3	21.9
	2400	62.9	60.8	58.8	57.8	56.8	1.0	8.6	15.9	19.9	23.8
20VQ-11	2500	65.5	63.5	61.4	60.4	59.4	1.1	8.8	16.6	20.7	24.8
	2700	70.7	68.7	66.7	65.6	64.6	1.2	9.4	17.8	22.3	26.7
	1000	35.0	33.0	30.4	29.4	28.3	0.7	5.0	9.4	11.6	13.8
	1200	42.0	40.0	37.4	36.4	35.3	0.8	5.8	11.2	14.0	16.6
	1500	52.5	50.5	47.9	46.9	45.8	1.0	7.0	14.1	17.4	20.7
	1800	63.2	61.0	58.4	57.4	56.2	1.0	8.5	16.5	20.7	24.6
	2000	70.0	67.7	65.4	64.2	63.0	1.1	9.3	18.2	22.8	27.2
	2200	77.0	74.7	72.4	71.2	70.0	1.2	10.2	19.9	24.8	29.7
20VQ-12	2400	84.0	81.8	79.5	78.4	77.3	1.3	11.0	21.5	26.8	32.1
	2500	87.5	85.2	82.9	81.7	80.5	1.4	11.4	22.3	27.8	33.3
	2700	94.5	92.2	89.9	88.7	87.5	1.5	12.2	23.9	29.8	35.7
	1000	37.9	36.4	34.3	—	—	0.7	5.7	10.6	—	—
	1200	45.5	44.0	41.9	—	—	0.9	6.6	12.7	—	—
	1500	56.9	55.4	53.3	—	—	1.1	8.1	15.9	—	—
	1800	68.2	66.7	64.6	—	—	1.1	9.6	18.8	—	—
	2000	75.8	74.0	72.2	—	—	1.2	10.6	20.7	—	—
20VQ-14	2200	83.4	81.6	79.8	—	—	1.3	11.6	22.6	—	—
	2400	91.0	89.2	87.4	—	—	1.4	12.7	24.5	—	—
	2500	94.8	93.0	91.2	—	—	1.5	13.2	25.4	—	—
	2700	102.3	100.5	98.8	—	—	1.6	14.3	27.2	—	—
	1000	44.2	42.7	40.6	—	—	1.0	6.7	12.4	—	—
	1200	53.0	51.5	49.4	—	—	1.1	8.0	14.9	—	—
	1500	66.0	64.0	61.9	—	—	1.3	9.8	18.6	—	—
	1800	79.5	77.5	75.4	—	—	1.4	11.7	22.1	—	—
20VQ-14	2000	88.4	86.4	84.3	—	—	1.5	12.9	24.3	—	—
	2200	97.2	95.2	93.2	—	—	1.7	14.1	26.5	—	—
	2400	106.1	104.0	102.0	—	—	1.8	15.3	28.7	—	—
	2500	110.5	108.5	106.4	—	—	1.9	15.9	29.8	—	—
	2700	119.3	117.3	115.3	—	—	2.0	17.1	31.9	—	—

Notes on Operation

- See page B0-4 for Notes on Using Vane Pumps.

Shaft Input (Shaft Torque) Limitation

VQ double pumps have max. shaft torque limitations. Please ensure that the total of the maximum load of the two pumps do not exceed the torque limit shown in the table. Please refer to limitations of SQP double pumps shaft input (shaft torque) on page B2-4.

Series	Shaft Torque Limitation N·m	Series	Shaft Torque Limitation N·m
2520VQ	320	4520VQ	820
3520VQ	610	4525VQ	820
3525VQ	610	4535VQ	820

Piping Flanges (Conforming to SAE J 518c Standard Pressure)

- Flanges sold separately.
- Refer to table below to order flanges (with hex socket bolts, spring washers, and O-rings).
- See page R7-1 for dimensions, etc.

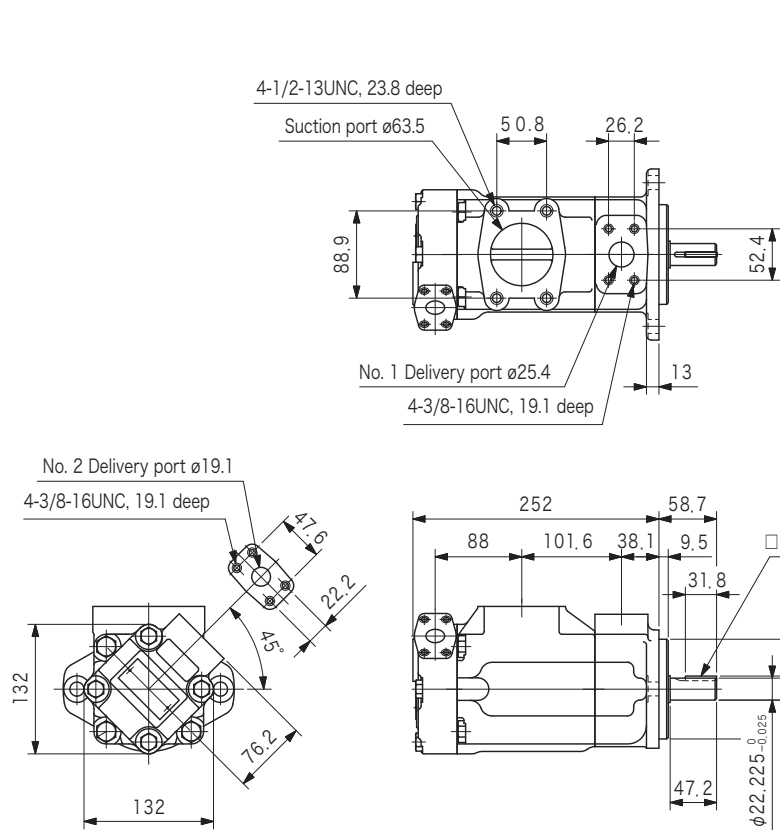
Pump Model	Type	Flange Type					
		Suction Port		No.1 Delivery Port (Shaft End)		No.2 Delivery Port (Cover End)	
		Size		Size		Size	
2520VQ	Threaded	2-1/2	FL1-20-20P-10-JA-S4-J	1	FL1-8-08P-10-JA-S4-J	3/4	FL1-6-06P-10-JA-S4-J
	Welded		FL1-20-20W-10-JA		FL1-8-08W-10-JA		FL1-6-06W-10-JA
3520VQ	Threaded	3	FL1-24-24P-10-JA-S4-J	1-1/4	FL1-10-10P-10-JA-S4-J	3/4	FL1-6-06P-10-JA-S4-J
	Welded		FL1-24-24W-10-JA		FL1-10-10W-10-JA		FL1-6-06W-10-JA
3525VQ	Threaded	3	FL1-24-24P-10-JA-S4-J	1-1/4	FL1-10-10P-10-JA-S4-J	1	FL1-8-08P-10-JA-S4-J
	Welded		FL1-24-24W-10-JA		FL1-10-10W-10-JA		FL1-8-08W-10-JA
4520VQ	Threaded	3-1/2	_____	1-1/2	FL1-12-12P-10-JA-S4-J	3/4	FL1-6-06P-10-JA-S4-J
	Welded		FL1-28-28W-10-JA		FL1-12-12W-10-JA		FL1-6-06W-10-JA
4525VQ	Threaded	3-1/2	_____	1-1/2	FL1-12-12P-10-JA-S4-J	1	FL1-8-08P-10-JA-S4-J
	Welded		FL1-28-28W-10-JA		FL1-12-12W-10-JA		FL1-8-08W-10-JA
4535VQ	Threaded	4	_____	1-1/2	FL1-12-12P-10-JA-S4-J	1-1/4	FL1-10-10P-10-JA-S4-J
	Welded		FL1-32-32W-10-JA		FL1-12-12W-10-JA		FL1-10-10W-10-JA

Dimensions

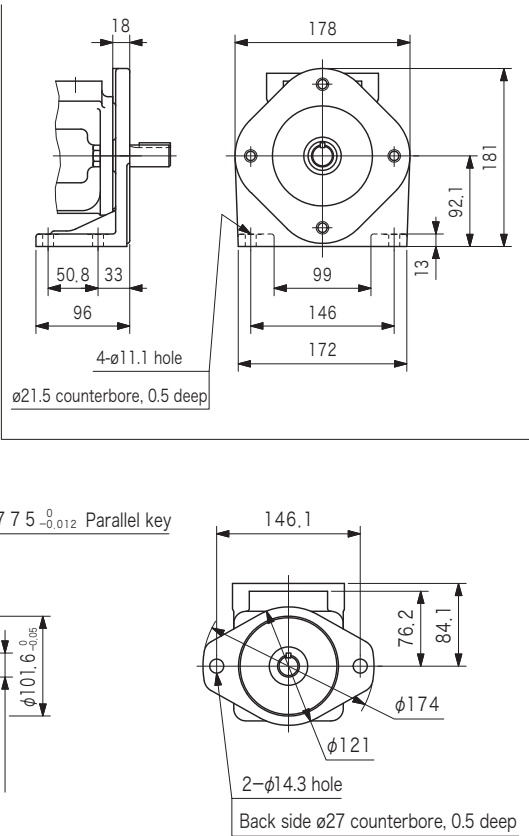
● Refer to the below table for the No. 11 spline shaft end configuration.

Model Code	Shaft End Shape
2520VQ	Same as 25VQ Series (B5-5)
3520VQ	Same as 35VQ Series (B5-5)
3525VQ	
4520VQ	Same as 45VQ Series (B5-6)
4525VQ	
4535VQ	

2520VQ (Flange mounting)

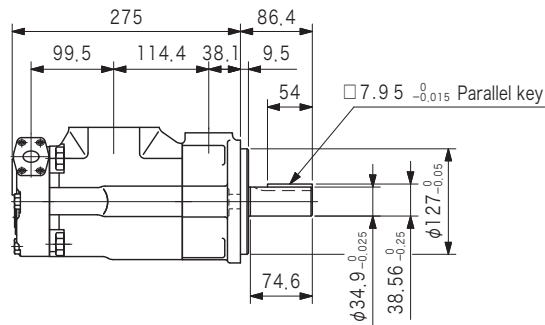
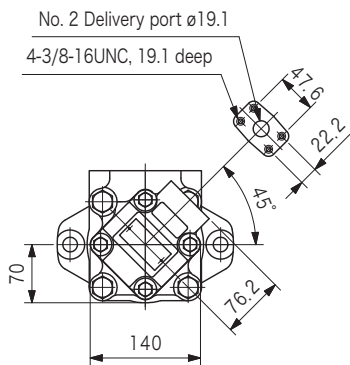
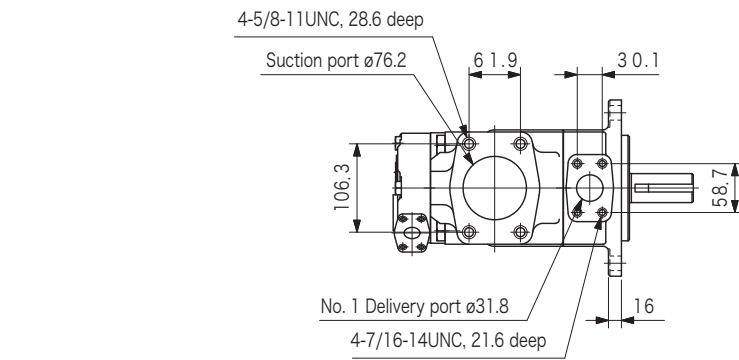


(Foot mounting)

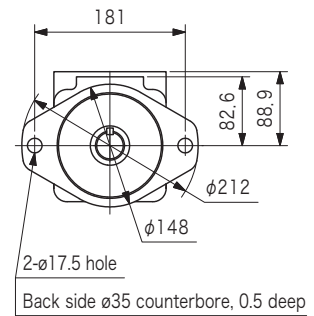
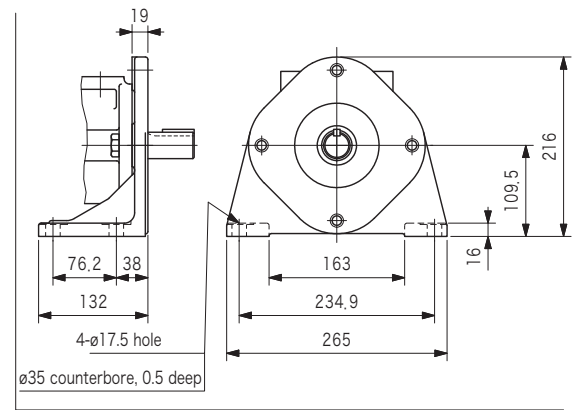


Dimensions

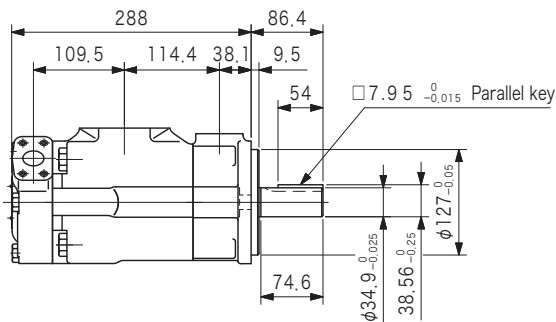
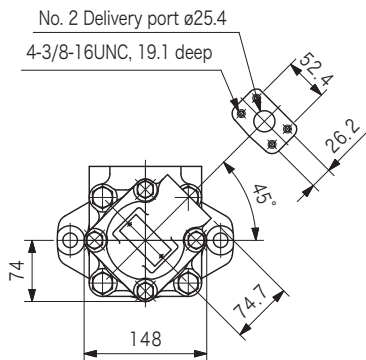
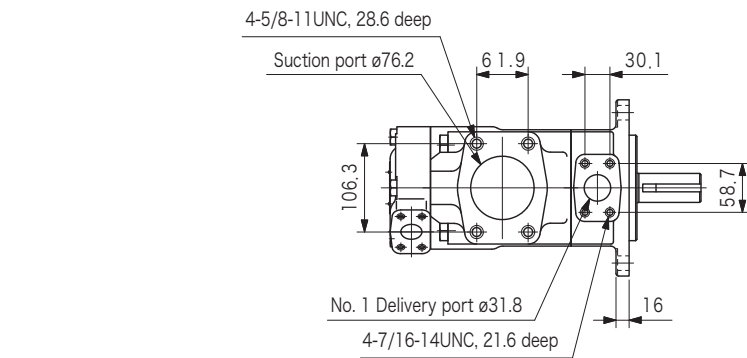
3520VQ (Flange mounting)



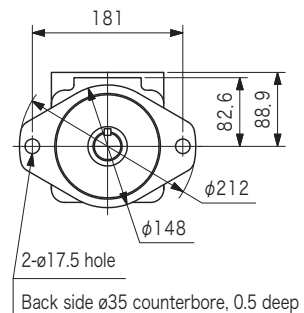
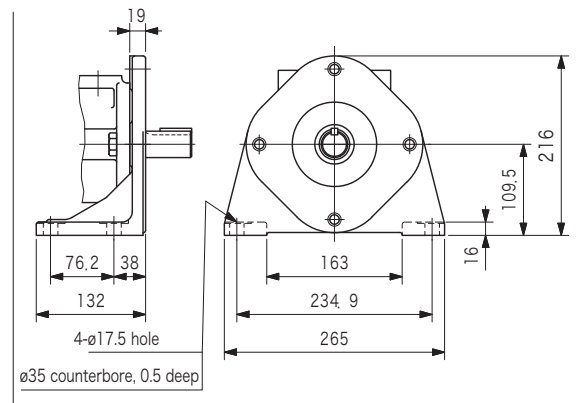
(Foot mounting)



3525VQ (Flange mounting)

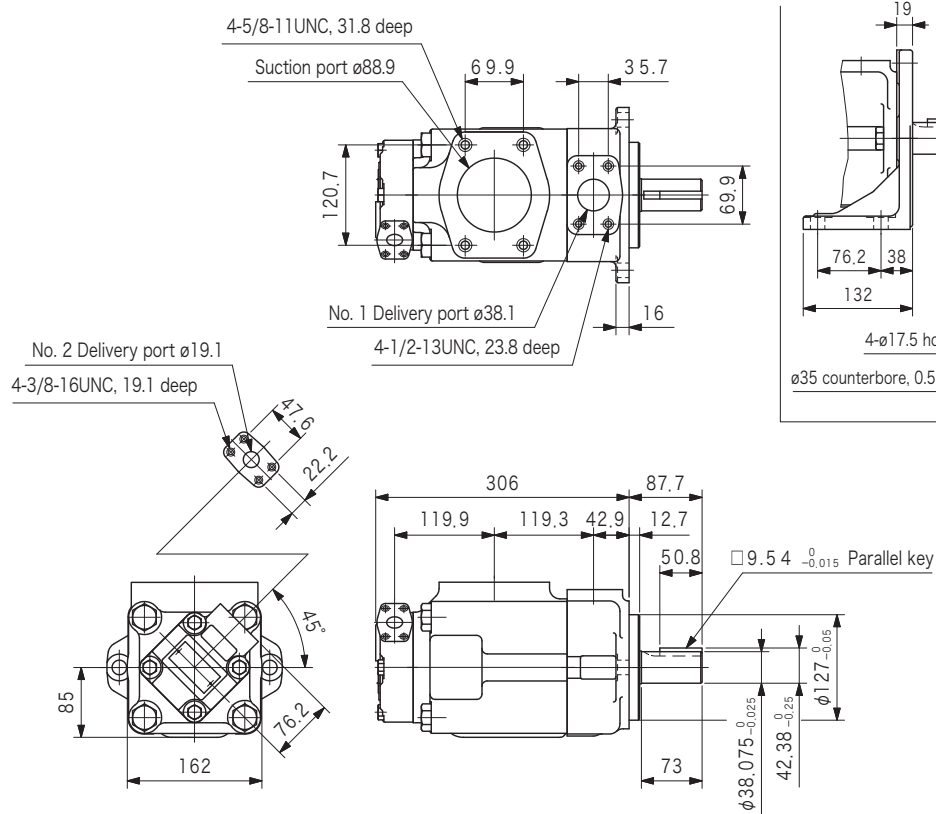


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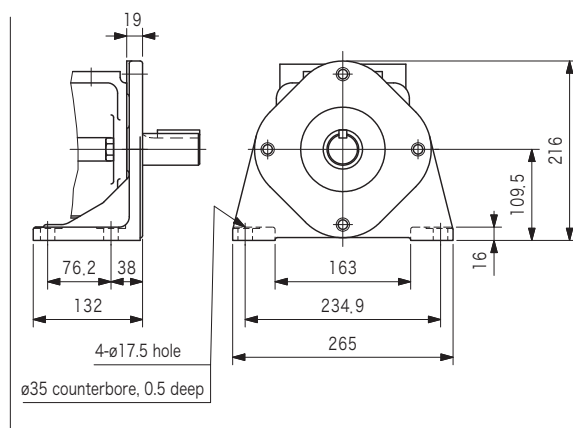


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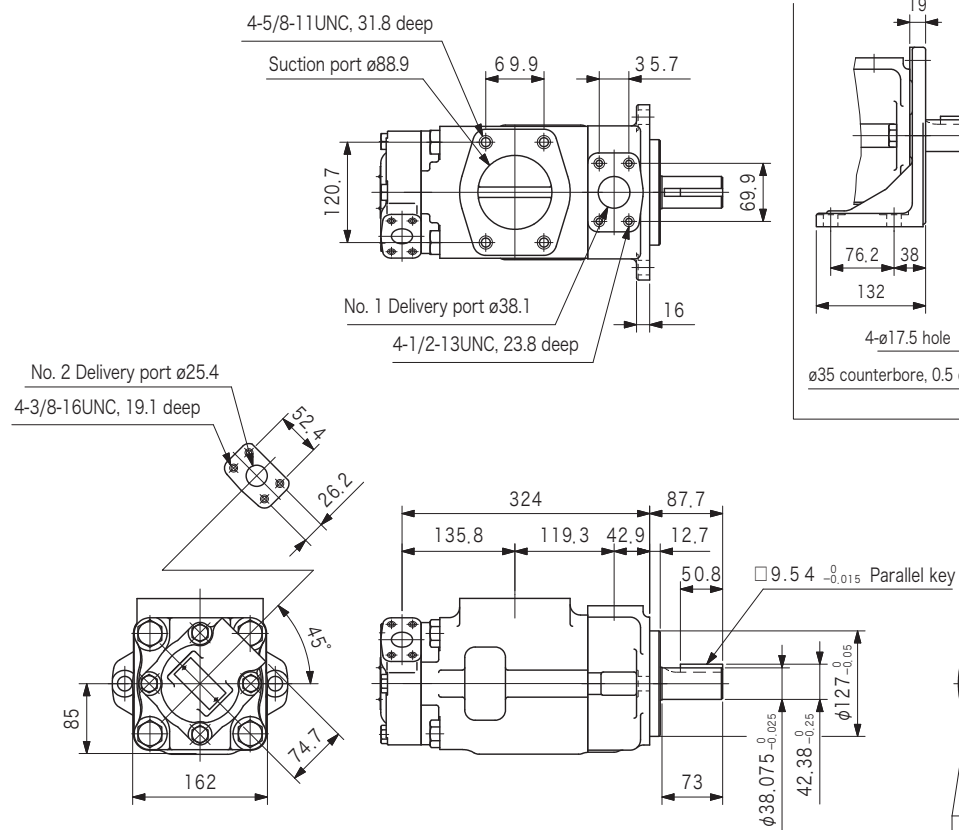
4520VQ (Flange mounting)



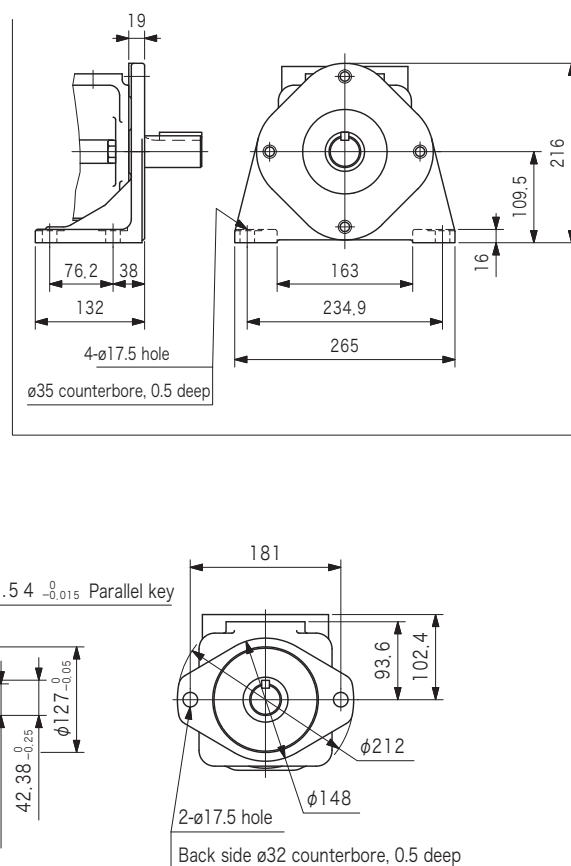
(Foot mounting)



4525VQ (Flange mounting)

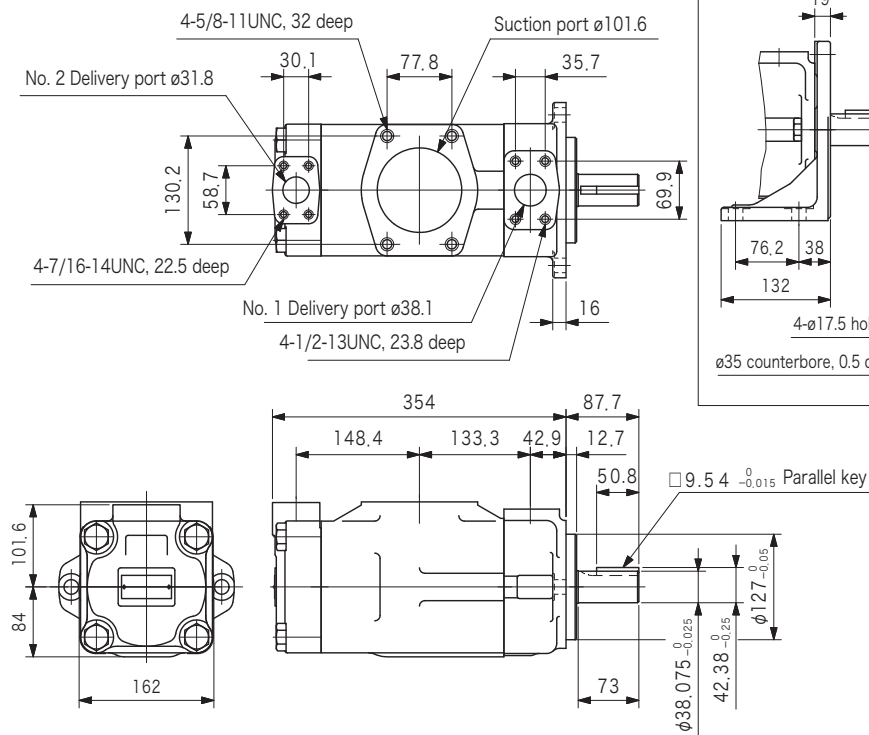


(Foot mounting)

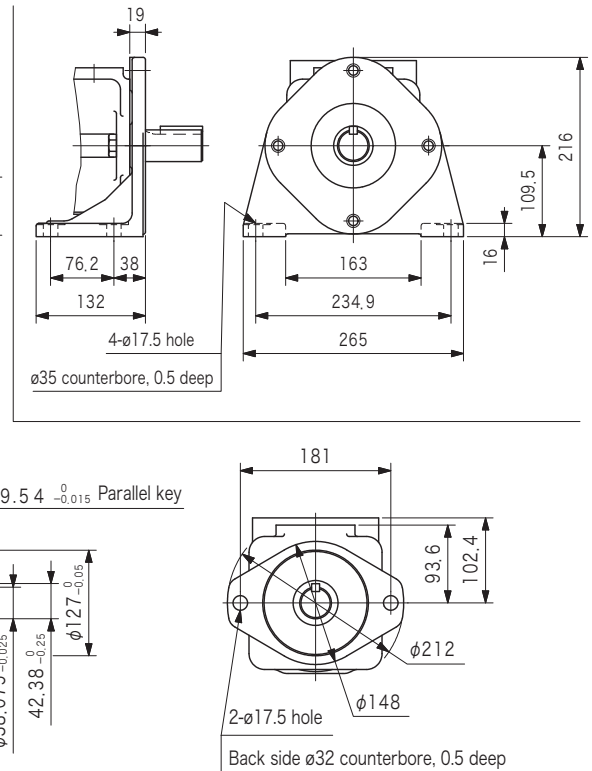


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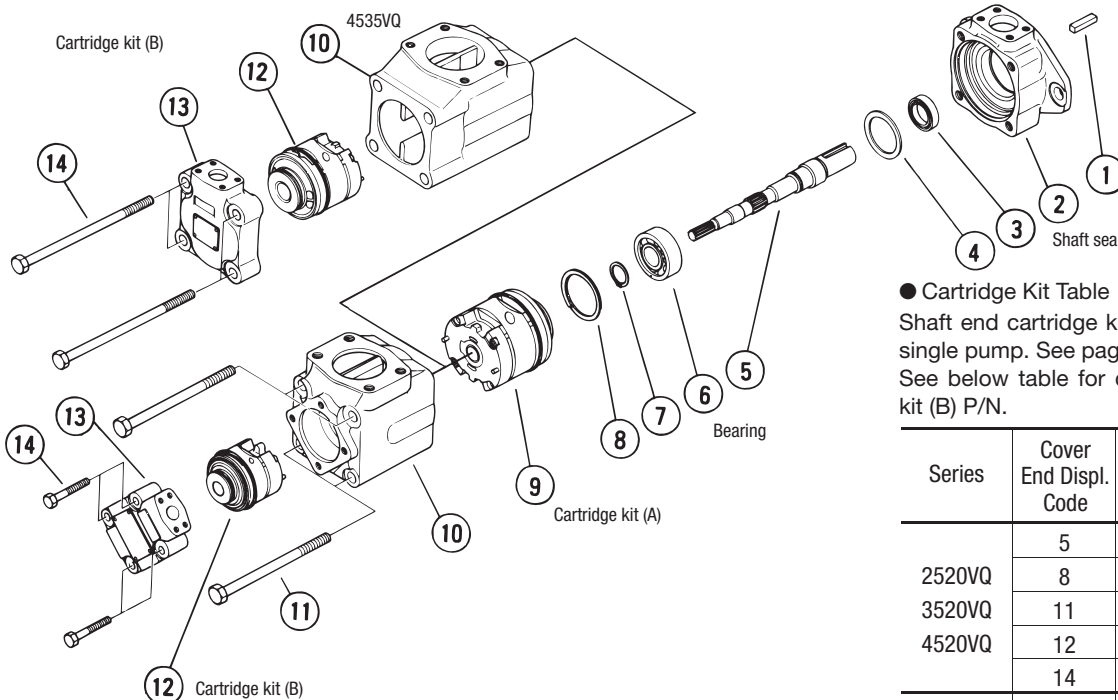
4535VQ (Flange mounting)



(Foot mounting)



Construction



● Cartridge Kit Table

Shaft end cartridge kit (A) is same as for single pump. See page B5-6.
See below table for cover end cartridge kit (B) P/N.

Series	Cover End Displ. Code	Cartridge Kit (B) P/N (Cover End)
2520VQ 3520VQ 4520VQ	5	VP417053A
	8	VP417054A
	11	VP416427A
	12	VP416428A
3525VQ 4525VQ	14	VP416429A
	12	VP421244A
	14	VP421235A
	17	VP421236A
4535VQ	21	VP421238A
	25	VP421240A
	30	VP421241A
	35	VP421242A
	38	VP421243A

● Seals, Bearing Table

Series	Seal Kit P/N	Shaft Seal P/N	Bearing P/N
2520VQ	VP920040A	VP191668	0070 62051
3520VQ	VP920048A	VP193428	0070 63061
3525VQ	VP920056A	VP193428	0070 63061
4520VQ	VP920060A	VP195287	0070 63071
4525VQ	VP920068A	VP195287	0070 63071
4535VQ	VP920072A	VP195287	0070 63071

Note: ● Shaft seal included in seal kit.
● Bearing P/N - bold characters refer to JIS B 1521 nominal number.
0070 indicates without shield.

Note: ● Cartridge kit includes seals excluding shaft seal.
● "L" suffix at end of P/N denotes left hand rotation.

TOKYO KEIKI INC.

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Fixed Displacement Vane Pumps