

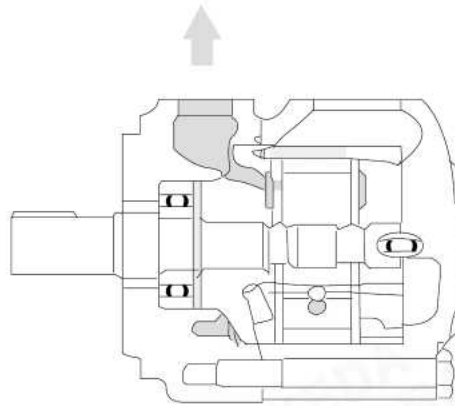
VQ 系列单泵 VQ series single pumps

适合行走机械的高性能子母叶片泵
High performance composition vane pumps for walking machinery

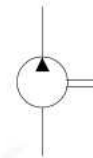
产品外观及简介 Shape and introduction

本系列是专为工程机械开发的高压高性能子母叶片泵，适用于工程机械，尤其行走机械的场合。其主要特点：
The series high pressure resistant composition vane pumps with high performance are developed for engineering machinery application, especially for walking machinery. The main features are as follows:

- 1、采用液压平衡的子母叶片结构设计，压力更高，最高达到21 Mpa;
 - 2、采用浮动侧板结构，可以自动补偿间隙，达到压力平衡，实现高转速高压力的优越性能；
 - 3、侧板采用双金属挠性材料，极大提高抗咬合性能，使泵的效果更高，寿命更长。
1. Adopt the structure of hydraulic balancing composition vanes, making the resistant pressure higher to maximum 21 Mpa.
 2. Adopt the structure of floating side plate supporting with its function of automatic tolerance compensation, which helps to get pressure balance and high performance under high rotation speed and high pressure.
 3. Adopt bimetal flexible material for side plates, which dramatically improves the engagement performance of the gears and thus makes the pump working better and longer.



功能符号
Functional sign



型号说明 Model descriptions:

(F3-)	25VQ	21	A	(F)	-1	A	20	L
前注 Front marks	系列号 Code of series	▲排量代号 Displacement codes	油口连接 Pump port connection	安装型式 Mounting type	轴伸形式 Shaft extension	出油口位置 Outlet port position	设计号 Designing No.	旋转方向 Direction of rotation
无标记: 石油系油乳 化液水-乙 二醇	20VQ	2,3,4,5,6,7,8,9 10,11,12,14	A-SAE 4螺栓法兰 4-bolted Flange	无标记: No marks: 法兰安装型 Flange mounting F- 脚座安装型 F-Foot mounting	1-带键直轴 1- straight shaft with key 151-花键轴 151-spline shaft	(从泵的盖端看) (from cover end pump) A-进口油对侧 A- Opposition of inlet	30	(从泵的轴端看) (from shaft end pump) L-逆时针旋转 L-counter-clockwise rotation 无标记: No marks: 顺时针旋转 Clockwise rotation
No mark: water-in oil emulsion of petroleum series	25VQ	10,12,14,15,17, 19,21			1-带键直轴 with key 86-重型带 键直轴 86-heavy-duty straight shaft with key 11-花键轴 11-spline shaft	B-从进口油逆时针90° from inlet C-进口油同侧 C- the same side of inlet D-从进口油顺时针90° from inlet		
F3:磷酸酯液	35VQ	21,25,30,32,35, 38,45			20			
F3: Sul phosuccinic ester fatty of acid	45VQ	42,45,50,57,60 66,75			20			

▲在1200r/min和0.69MPa(100psi)下的额定排量USgpm。
The rated displacement (USgpm) is under the conditions of 1200r/min and 0.69 Mpa(100psi).

VQ 系列单泵 VQ series single pumps

工作参数 Operating parameters

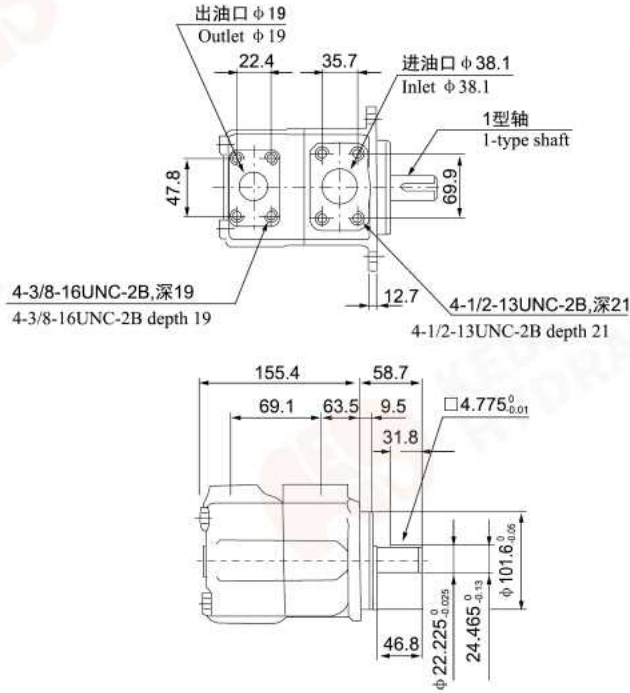
型号 Models	排量代号 Displacement code	几何排量 Geometric displacement (ml/r)	最高转速 Max speed (r/min)	最高压力 Max pressure (Mpa)	典型输出流量 Typical outlet flow (L/min) 最高转速及最高压力 under Max speed and Max pressure	典型输出功率 Typical outlet power (KW) 最高转速及最高压力 under Max speed and Max pressure	重量 Weight
20VQ	2	7	2700	21	16.4	7.2	11.8
	3	11.7	2700	21	24.4	10.8	
	4	15	2700	21	32.7	14.4	
	5	18	2700	21	42.3	17.9	
	6	19	2700	21	50.6	21.5	
	7	22	2700	21	58.8	23.7	
	8	27	2700	21	56.4	25.1	
	9	30	2700	21	73.4	26.0	
	10	31.5	2700	21	81.7	26.8	
	11	36	2700	21	88.5	27.7	
	12	40	2700	16	96.5	28.4	
	14	45	2700	14	115.4	29.1	
25VQ	10	32.5	2700	21	81.4	35.2	14.5
	12	38.3	2700	21	88.5	41.0	
	14	43.3	2700	21	103.8	46.6	
	15	47.3	2500	21	109.4	48.1	
	17	52.5	2500	21	119.2	51.8	
	19	60	2500	21	133.5	55.2	
35VQ	21	64.0	2500	21	145.5	63.7	22.7
	25	79.2	2500	21	173.1	75.3	
	30	95.0	2500	21	211.5	87.7	
	32	101	2500	21	220.2	92.2	
	35	109	2400	21	230.8	98.5	
	38	118	2400	21	250	104.4	
	45	147	2400	21	271.2	99.8	
45VQ	42	134	2400	17.5	255.8	91.4	34.1
	45	147	2200	17.5	271.2	99.8	
	50	156	2200	17.5	303.8	105.2	
	57	180	2200	17.5	343.7	120.2	
	60	189	2200	17.5	369.2	126.8	
	66	208	2200	17.5	408.7	142.4	
	75	237	2200	14	460	120.2	

性能参数: SAE 10W油液▲82°C(180°F), 泵进口▲0 PSIG (14.7/Psia) 注: 出口必须始终高于进口压力。

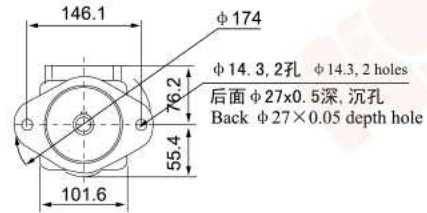
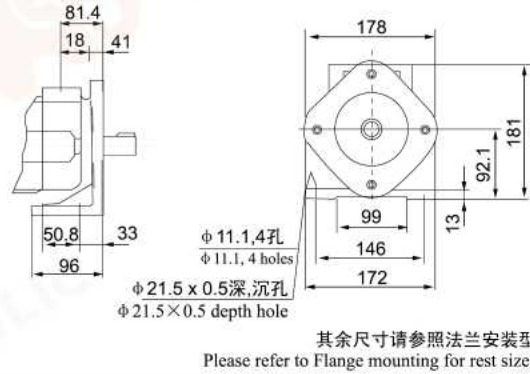
Performance parameters: SAE 10W hydraulic fluid ▲82°C (180° F), pump inlet ▲0 PSIG (14.71/Psia) Notes: The pressure of outlet port must be higher than the one of inlet port.

安装连接尺寸 Installation sizes

20VQ法兰安装 20VQ Flange mounting

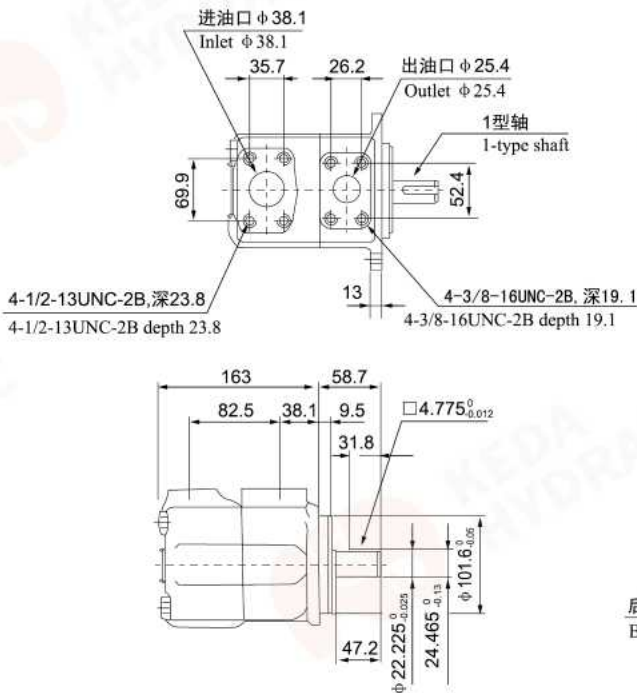


20VQ脚座安装 20VQ foot mounting

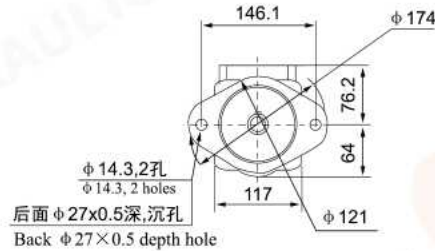
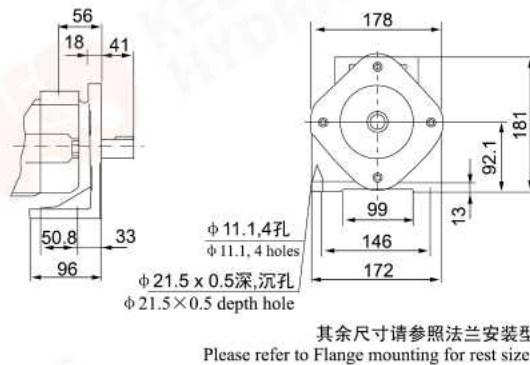


其它轴伸尺寸请参见53页
Please refer to shaft extension sizes in page 53 for rest sizes

25VQ法兰安装 25VQ Flange mounting

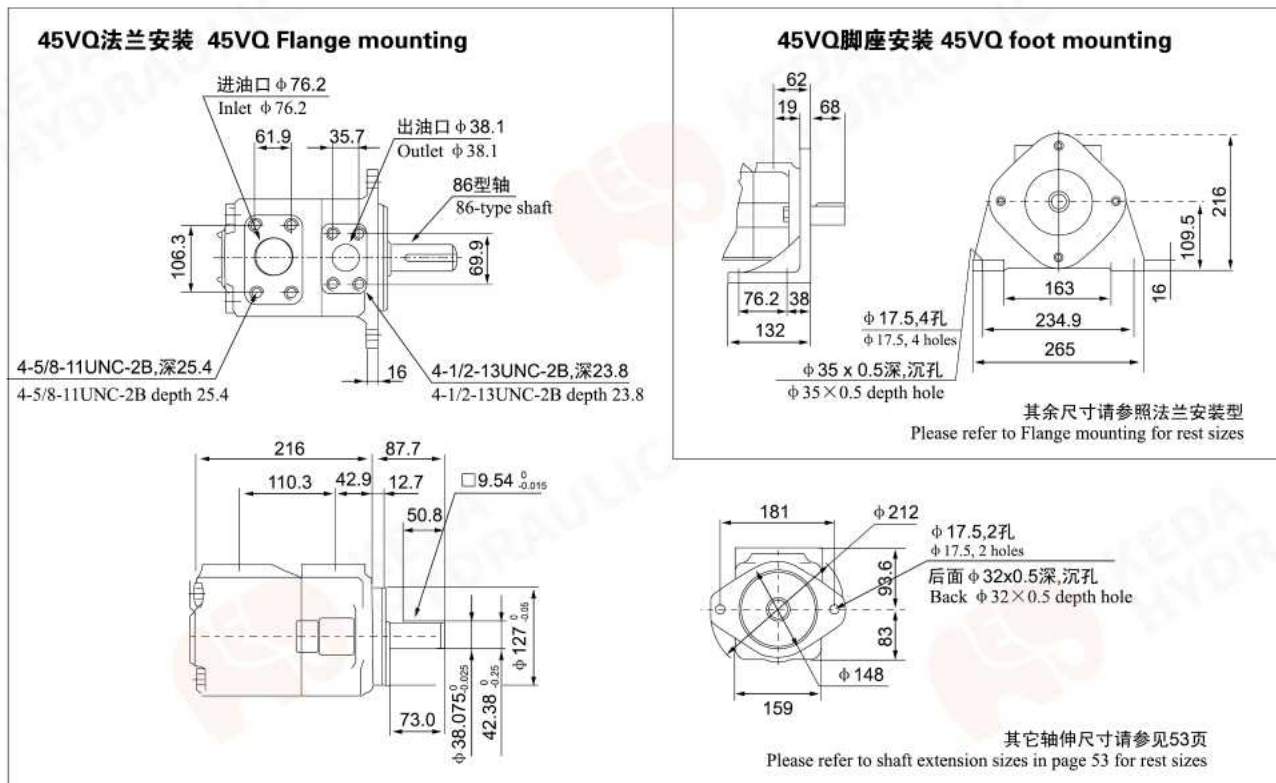
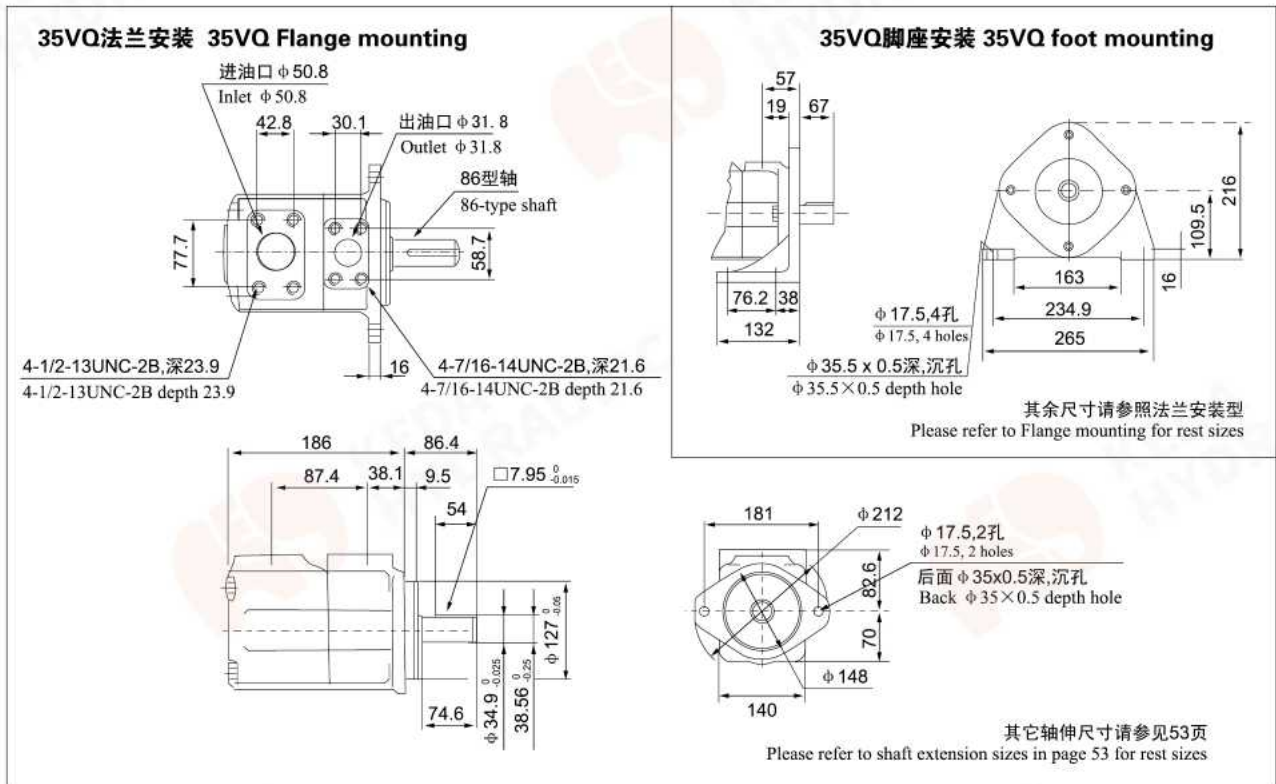


25VQ脚座安装 25VQ foot mounting



其它轴伸尺寸请参见53页
Please refer to shaft extension sizes in page 53 for rest sizes

安装连接尺寸 Installation sizes



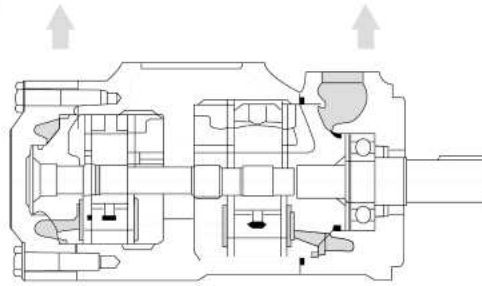
VQ系列双联泵 VQ series double pumps

适合行走机械的高性能子母叶片泵
High performance composition vane pumps for walking machinery

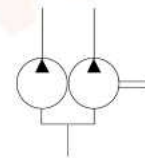
产品外观及简介 Shape and introduction

本系列是专为工程机械开发的高压高性能子母叶片泵，适用于工程机械，尤其行走机械的场合。其主要特点：
The series high pressure resistant composition vane pumps with high performance are developed for engineering machinery application, especially for walking machinery. The main features are as follows:

- 1、采用液压平衡的子母叶片结构设计，压力更高，最高达到21 Mpa;
 - 2、采用浮动侧板结构，可以自动补偿间隙，达到压力平衡，实现高转速高压力的优越性能；
 - 3、侧板采用双金属挠性材料，极大提高抗咬合性能，使泵的效果更高，寿命更长。
1. Adopt the structure of hydraulic balancing composition vanes, making the resistant pressure higher to maximum 21 Mpa.
 2. Adopt the structure of floating side plate supporting with its function of automatic tolerance compensation, which helps to get pressure balance and high performance under high rotation speed and high pressure.
 3. Adopt bimetal flexible material for side plates, which dramatically improves the engagement performance of the gears and thus makes the pump working better and longer.



功能符号
Functional sign



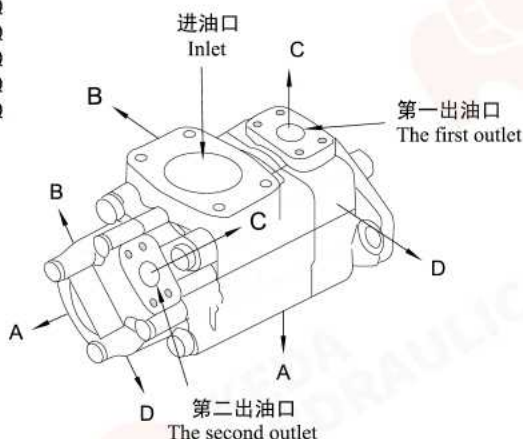
型号说明 Model descriptions:

(F3-)	****VQ	**	A	**	(F)	-*	*	20	*
前注 Front marks	系列号 Code of series	▲排量代号 Displacement codes	油口连接 Pump port connection	▲排量代号盖端泵 Displacement code cover end pump	安装型式 Mounting type	轴伸形式 Shaft extension	油口位置 Pump position	设计号 Designing No.	旋转方向 Direction of rotation
无标记： 石油系油乳 化液水-乙 二醇 No mark: water-in oil emulsion of petroleum series F3:磷酸酯液 F3: Sul phosuccinic ester fatty of acid	2520VQ 3520VQ 3525VQ 4520VQ 4525VQ 4535VQ	10,12,14,15,17, 19,21 21,25,30,32,35, 38,45 21,25,30,32,35, 38,45 42,45,50,57,60, 66,75 42,45,50,57,60, 66,75 42,45,50,57,60, 66,75	A-SAE 4螺栓法兰 4-bolted Flange	2,3,4,5,6,7,8,9, 10,11,12,14 2,3,4,5,6,7,8,9, 10,11,12,14 10,12,14,15,17, 19,21 2,3,4,5,6,7,8,9, 10,11,12,14 10,12,14,15,17, 19,21 21,25,30,32,35, 38,45	无标记： 法兰安装型 Flange mounting F- 脚座安装型 F-Foot mounting	1-带键直轴 1- straight shaft with key 86-重型带键直轴 86-heavy-duty straight shaft with key 11-花键轴 11-spline shaft	见下表 See as the following table	20	(从泵的轴端看) (from shaft end pump) 无标记： No marks: 顺时针旋转 Clockwise rotation L-逆时针旋转 L-counterclockwise rotation

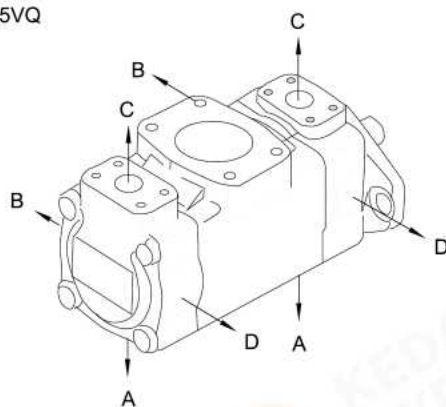
▲在1200r/min和0.69MPa(100psi)下的额定排量USgpm。
The rated displacement (USgpm) is under the conditions of 1200r/min and 0.69 Mpa(100psi).

油口位置表 (从泵的盖端看) Pump oil port position(viewed from cover end pump)

- 2520VQ
- 3520VQ
- 3525VQ
- 4520VQ
- 4525VQ



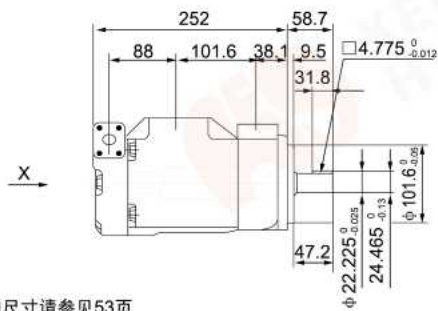
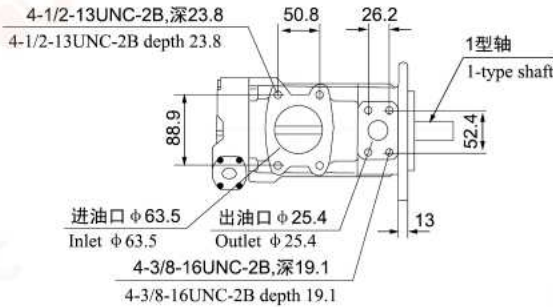
- 4535VQ



油口位置 Pump position	所有系列 (除4535VQ外) All series (except for 4535VQ)	4535VQ
第一出油口 在进油口对侧 The first outlet is the opposition side of inlet.	AA 第二出油口在进油口逆时针转135° The second outlet is to counterclockwise rotation of 135° from inlet	第二出油口在进油口对侧 The second outlet is the opposition side of inlet.
	AB 第二出油口在进油口逆时针转45° The second outlet is to counterclockwise rotation of 45° from inlet	第二出油口在进油口逆时针转90° The second outlet is to counterclockwise rotation of 90° from inlet
	AC 第二出油口在进油口顺时针转45° The second outlet is to clockwise rotation of 45° from inlet	第二出油口在进油口同侧 The second outlet is the same side of inlet.
	AD 第二出油口在进油口顺时针转135° The second outlet is to clockwise rotation of 135° from inlet	第二出油口在进油口顺时针转90° The second outlet is to clockwise rotation of 90° from inlet
第一出油口 从进油口逆 时针转90° The first outlet is to counterclockwise rotation of 90° from inlet	BA 第二出油口在进油口逆时针转135° The second outlet is to counterclockwise rotation of 135° from inlet	第二出油口在进油口对侧 The second outlet is the opposition side of inlet.
	BB 第二出油口在进油口逆时针转45° The second outlet is to counterclockwise rotation of 45° from inlet	第二出油口在进油口逆时针转90° The second outlet is to counterclockwise rotation of 90° from inlet
	BC 第二出油口在进油口顺时针转45° The second outlet is to clockwise rotation of 45° from inlet	第二出油口在进油口同侧 The second outlet is the same side of inlet.
	BD 第二出油口在进油口顺时针转135° The second outlet is to clockwise rotation of 135° from inlet	第二出油口在进油口顺时针转90° The second outlet is to clockwise rotation of 90° from inlet
第一出油口 在进油口同侧 The first outlet is the same side of inlet.	CA 第二出油口在进油口逆时针转135° The second outlet is to counterclockwise rotation of 135° from inlet	第二出油口在进油口对侧 The second outlet is the opposition side of inlet.
	CB 第二出油口在进油口逆时针转45° The second outlet is to counterclockwise rotation of 45° from inlet	第二出油口在进油口逆时针转90° The second outlet is to counterclockwise rotation of 90° from inlet
	CC 第二出油口在进油口顺时针转45° The second outlet is to clockwise rotation of 45° from inlet	第二出油口在进油口同侧 The second outlet is the same side of inlet.
	CD 第二出油口在进油口顺时针转135° The second outlet is to clockwise rotation of 135° from inlet	第二出油口在进油口顺时针转90° The second outlet is to clockwise rotation of 90° from inlet
第一出油口 从进油口顺 时针转90° The first outlet is to clockwise rotation of 90° from inlet	DA 第二出油口在进油口逆时针转135° The second outlet is to counterclockwise rotation of 135° from inlet	第二出油口在进油口对侧 The second outlet is the opposition side of inlet.
	DB 第二出油口在进油口逆时针转45° The second outlet is to counterclockwise rotation of 45° from inlet	第二出油口在进油口逆时针转90° The second outlet is to counterclockwise rotation of 90° from inlet
	DC 第二出油口在进油口顺时针转45° The second outlet is to clockwise rotation of 45° from inlet	第二出油口在进油口同侧 The second outlet is the same side of inlet.
	DD 第二出油口在进油口顺时针转135° The second outlet is to counterclockwise rotation of 135° from inlet	第二出油口在进油口顺时针转90° The second outlet is to clockwise rotation of 90° from inlet

安装连接尺寸 Installation sizes

2520VQ法兰安装 2520VQ Flange mounting

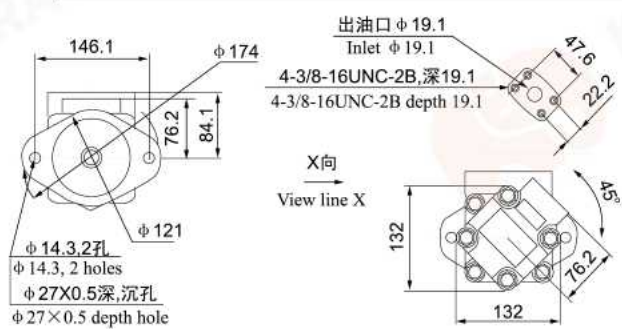


其它轴伸尺寸请参见53页
Please refer to shaft extension sizes in page 53 for rest sizes

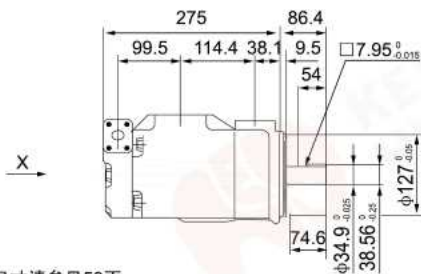
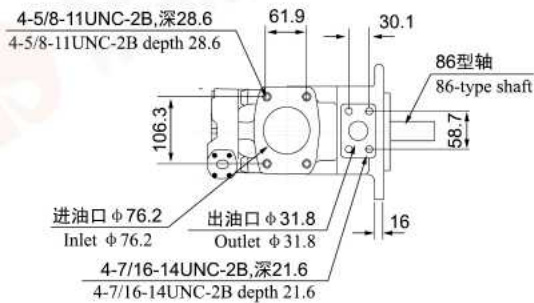
2520VQ脚座安装 2520VQ foot mounting



其余尺寸请参照法兰安装型
Please refer to Flange mounting for rest sizes

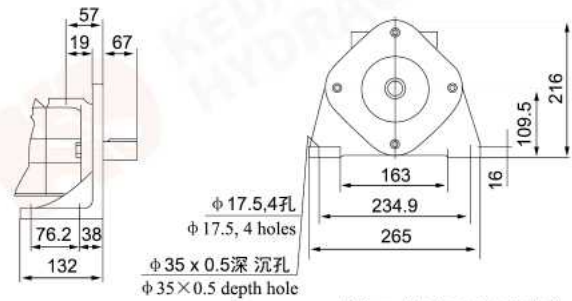


3520VQ法兰安装 3520VQ Flange mounting

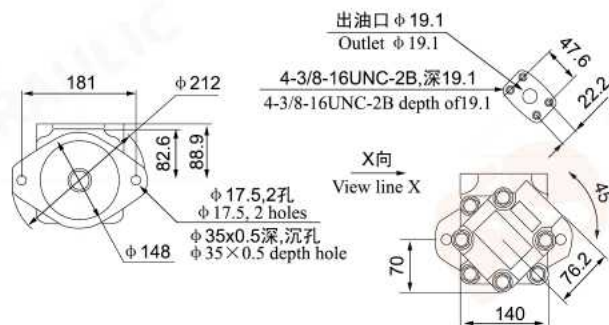


其它轴伸尺寸请参见53页
Please refer to shaft extension sizes in page 53 for rest sizes

3520VQ脚座安装 3520VQ foot mounting

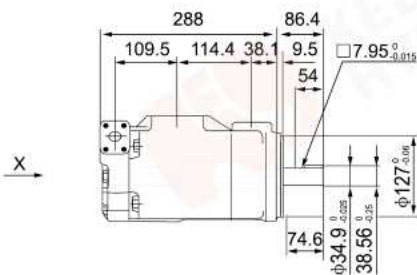
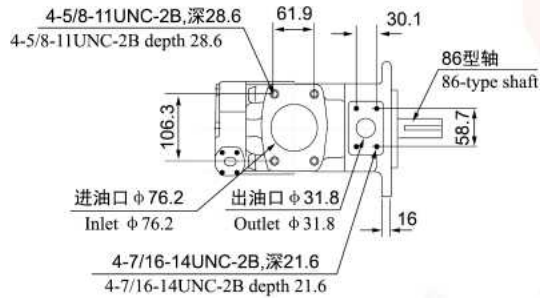


其余尺寸请参照法兰安装型
Please refer to Flange mounting for rest sizes

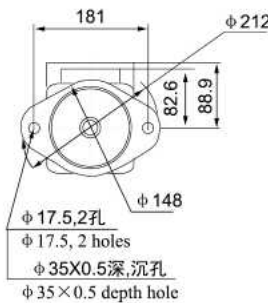


安装连接尺寸 Installation sizes

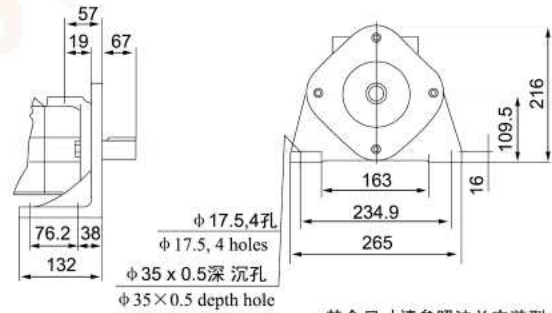
3525VQ法兰安装 3525VQ Flange mounting



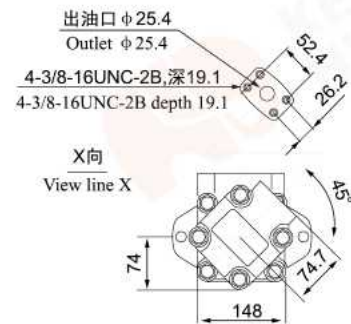
其它轴伸尺寸请参见53页
Please refer to shaft extension sizes in page 53 for rest sizes



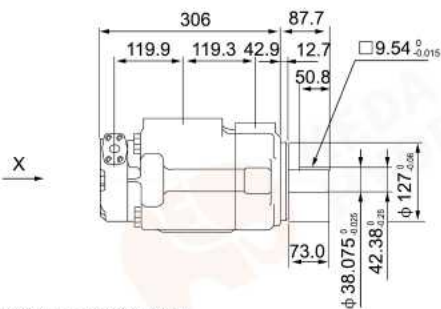
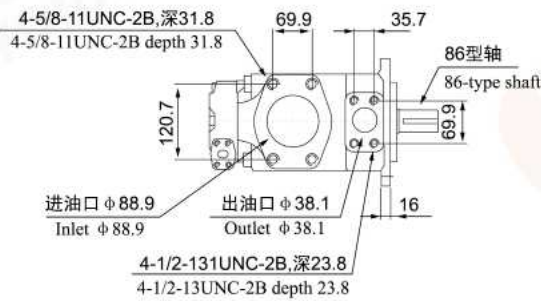
3525VQ脚座安装 3525VQ foot mounting



其余尺寸请参照法兰安装型
Please refer to Flange mounting for rest sizes



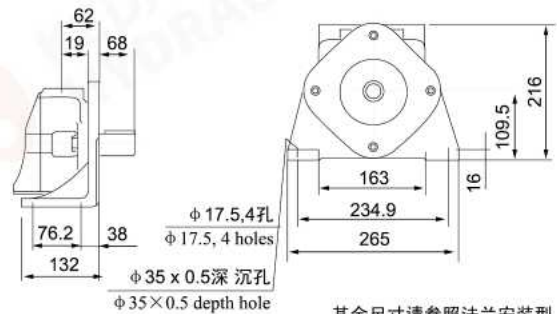
4520VQ法兰安装型 4520VQ Flange mounting



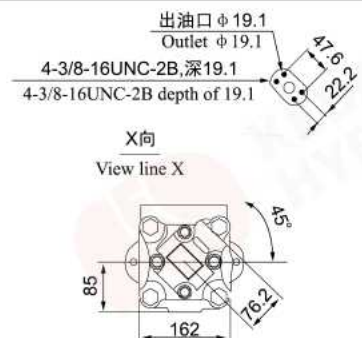
其它轴伸尺寸请参见53页
Please refer to shaft extension sizes in page 53 for rest sizes



4520VQ脚座安装型 4520VQ foot mounting

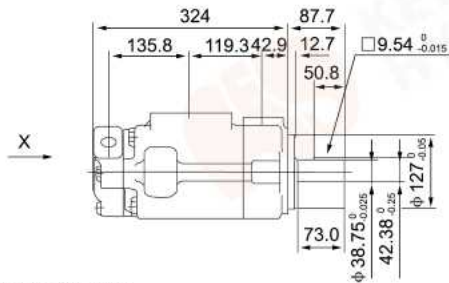
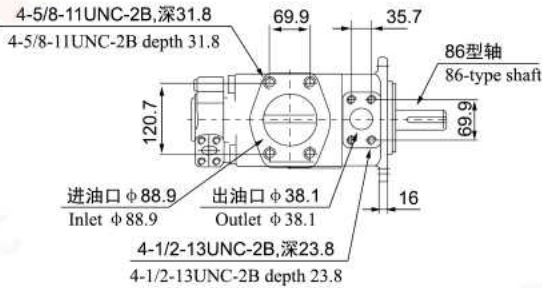


其余尺寸请参照法兰安装型
Please refer to Flange mounting for rest sizes



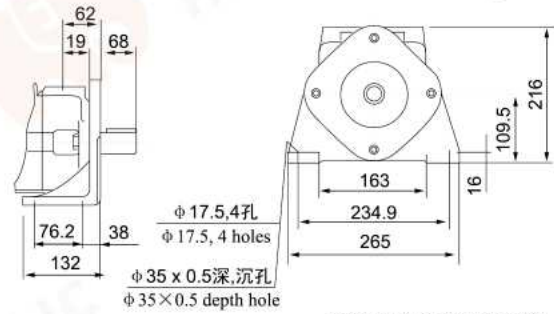
安装连接尺寸 Installation sizes

4525VQ法兰安装 4525VQ Flange mounting

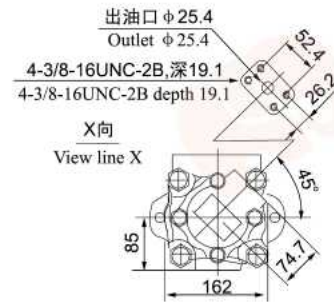
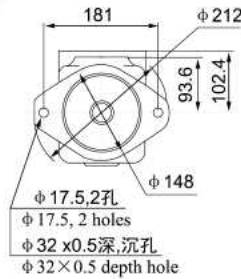


其它轴伸尺寸请参见53页
Please refer to shaft extension sizes in page 53 for rest sizes

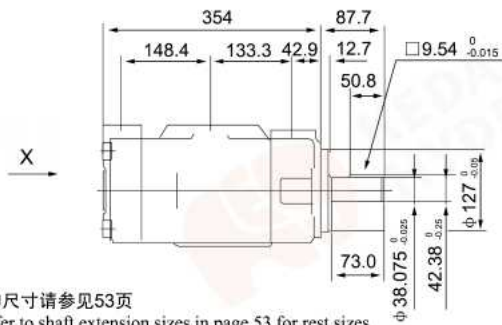
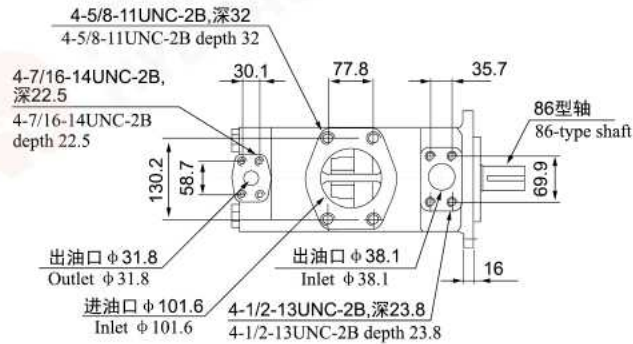
4525VQ脚座安装 4525VQ foot mounting



其余尺寸请参照法兰安装型
Please refer to Flange mounting for rest sizes

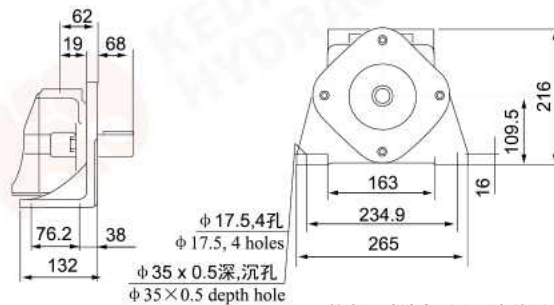


4535VQ法兰安装型 4535VQ Flange mounting

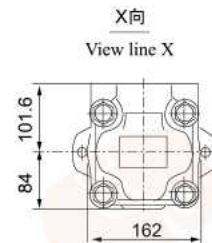
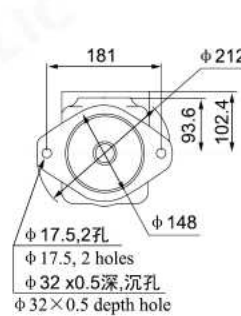


其它轴伸尺寸请参见53页
Please refer to shaft extension sizes in page 53 for rest sizes

4535VQ脚座安装型 4535VQ foot mounting



其余尺寸请参照法兰安装型
Please refer to Flange mounting for rest sizes



VQ系列泵芯 VQ series pump core

型号说明 Model Descriptions:

(F3-)	PC-	20VQ	-5	-R	-10
前注 Front marks	泵芯标记 Pump core marks	系列号 Models	▲排量代号 Displacement code	旋转方向 Direction of rotation	设计号 Designing No.
无标记: 石油系油乳化液 水-乙二醇 No mark: water-in oil emulsion of petroleum series F:磷酸酯液 F:Sul phosuccinic ester fatty of acid	PC-单泵泵芯 PC-single pump core	20VQ	2,3,4,5,6,7,8,9,10,11,12,14	(从泵的轴端看) (from shaft end pump) L-逆时针旋转 L-counterclockwise rotation R-顺时针旋转 R-clockwise rotation	10
	双联泵轴端泵芯 Shaft end core of double vane pumps	25VQ	10,12,14,15,17,19,21		
	PCT-双联泵盖端泵芯 PCT-cover end core of double vane pumps	35VQ	21,25,30,32,35,38,45		
		45VQ	42,45,50,57,60,66,75		

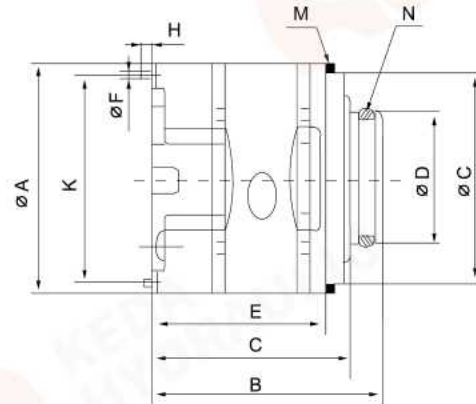
▲在1200r/min和0.69Mpa (100psi) 下的额定排量USgpm。

The rated displacement USgpm is under the conditions of 1200r/min and 0.69 Mpa(100psi).

性能参数: 与相应系列, 规格的油泵性能参数一致, 详见VQ系列单泵的性能参数。

The specifications of double vane pumps are the same with relative series of single vane pumps. Please check details on the operating parameter sheets shown in VQ series of single vane pumps.

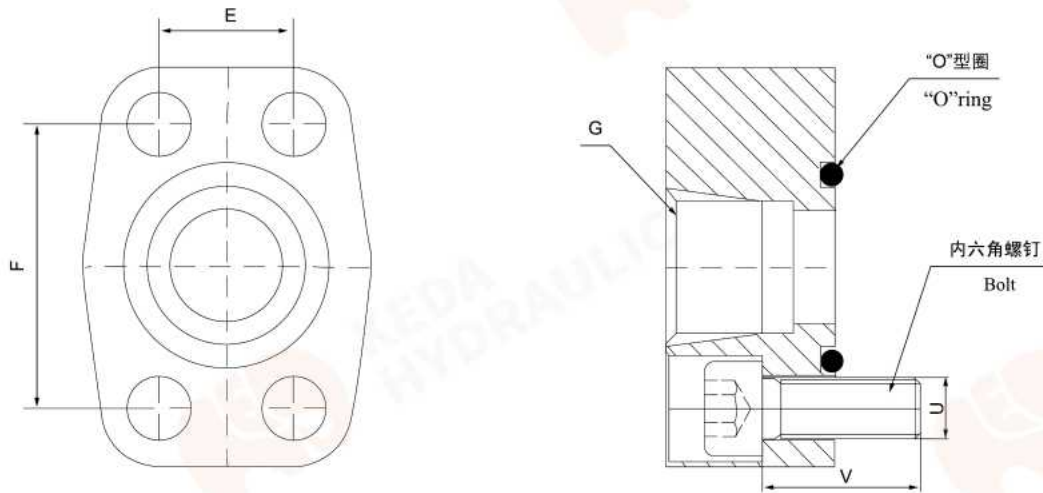
安装连接尺寸 Installation sizes



系列号 Models	A	B	C	D	E	F	G	H	K	M (挡圈) M (ring)	N(O型圈) (内径×线径) N (O type ring) (Inner diameter×lead wire diameter)
20VQ	82.5	81.5	70.1	47	61.5	4.8	76.2	6	73.6	82.76×76.26×3.5	40×3.5
25VQ	96.8	98.8	87	52.2	71.2	4.8	90.5	5	88.19	97×91×3.5	44×3.53
35VQ	114.3	117.7	105	72.2	90.3	6.4	108	6	103.94	114.5×108.5×3.5	63.09×3.53
45VQ	133.35	141.1	129.6	80.2	105.5	6.4	127	10	133.35	133.6×127.6×3.5	71×3.55

系列号 Models	转子内花键齿廓参数 Spline teeth No. in rotor				
	模数 Modulus	齿数 No. of teeth	标准压力角 Standard angle	大径 Major diameter	小径 Minor diameter
20VQ	48/96	30	45°	16.617	15.56
25VQ	48/96	40	45°	21.9	20.86
35VQ	40/80	37	45°	24.38	23.1
45VQ	12/24	14	30°	32.59	27.60

V (VQ)泵配用法兰连接尺寸 V (VQ) Flange Installation sizes



配泵型号 Models	尺寸 Dimension (mm)			内六角螺钉 Bolt		“O”型圈 (内径×线径) “O”ring
	E	F	G	U	V (mm)	
20V (VQ) 出油口Outlet	22.22	47.6	3/4	3/8-16UNC	30	28×3.55
25V (VQ) 出油口Outlet	26.2	52.4	1	3/8-16UNC	30	34.5×3.55
35V (VQ) 出油口Outlet	30.2	58.7	1 $\frac{1}{4}$	7/16-14UNC	35	40×3.55
45V (VQ) 出油口Outlet 20V (VQ), 25V (VQ) 出油口Outlet	35.7	69.9	1 $\frac{1}{2}$	1/2-13UNC	40	50×3.55
35V (VQ) 进油口inlet	42.9	77.8	2	1/2-13UNC	40	63.09×3.55
45V (VQ) 3520V (VQ), 3525V (VQ) 出油口Outlet	62	106.4	3	5/8-11UNC	45	82.5×3.55
2520V (VQ) 进油口inlet	50.8	88.9	2 $\frac{1}{2}$	1/2-13UNC	45	71×3.55
4520 (4525) V (VQ) 进油口inlet	69.9	120.6	3 $\frac{1}{2}$	5/8-11UNC	50	100×3.55
4535V (VQ) 进油口inlet	77.8	130.2	4	5/8-11UNC	50	115×3.55