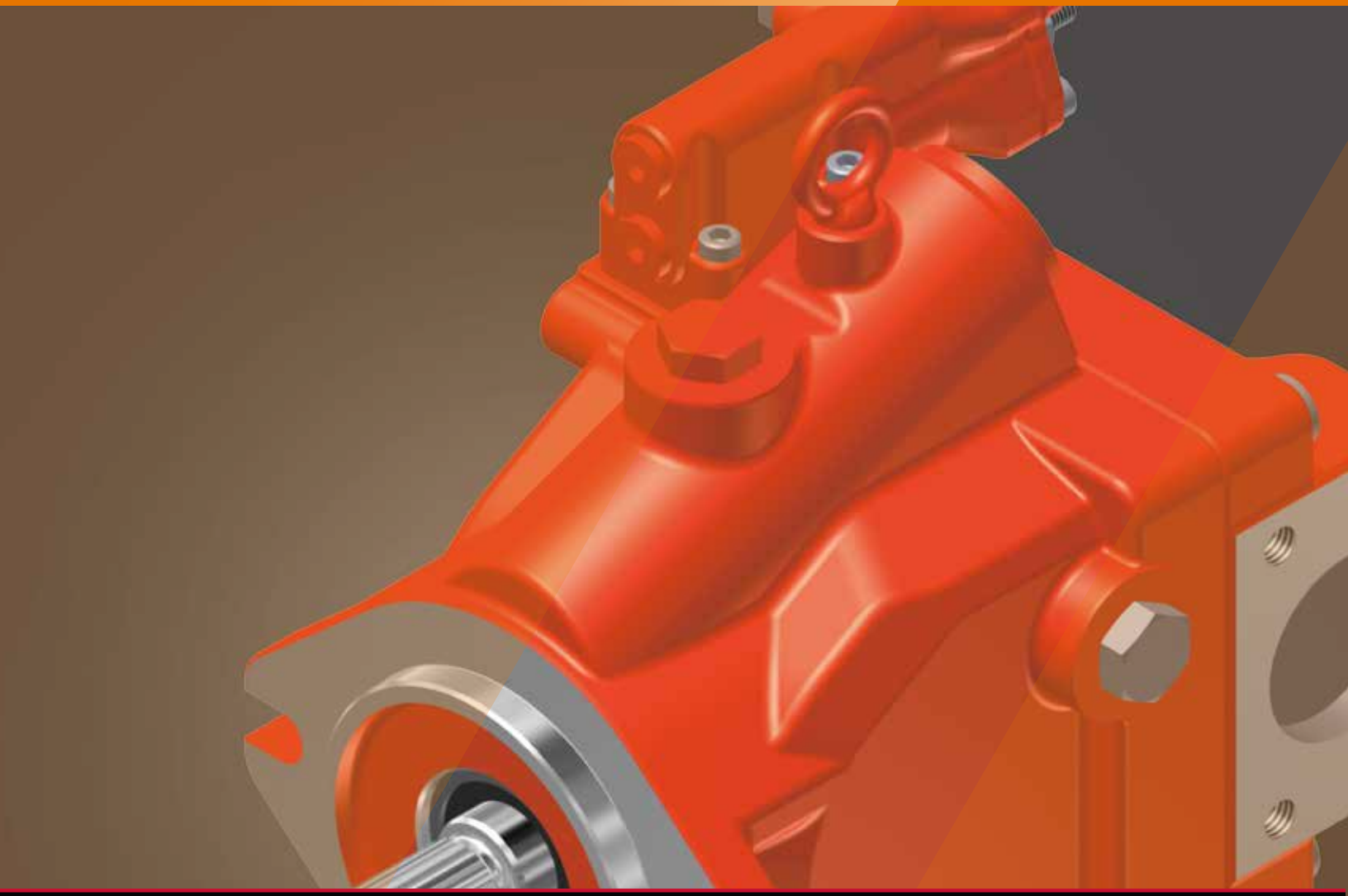
Kawasaki
Powering your potential

Swash Plate Type Axial Piston Pump

K3VLS series



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I. Applications / Product Usage

The following must be taken into consideration before use.

1. The operating condition of the products shown in this catalog varies depending upon each application. Therefore, the product suitability must be judged by the designer of the hydraulic system and/or the person who finalizes the technical specifications of the machine after analysis and testing. The product specification shall be determined based on the latest catalog and technical documents. The system must be designed taking into account the possibility of machine failure to ensure that all safety, warning, and application requirements are met.

2. For the proper use of the products, descriptions given in the SAFETY PRECAUTIONS must be observed.

3. The technical information in this catalog represents typical characteristics and performance of the products as of the published date.

4. If the intended use of the products is included in the following, please consult with Kawasaki in advance
   (1) Use the product in the operating conditions or environments other than those described in the technical documents
   (2) Use the product in the nuclear sector, aviation sector, medical sector, and/or food sector.
   (3) Use the product in applications which may cause substantial harm to others and their property, and especially in applications where ensuring safety is a requirement.

5. The information described in this catalog is subject to change without notice. For the latest information, please contact Kawasaki.

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II. Safety Precautions

Before using the product, you MUST read this catalog and MUST fully understand how to use the product. To use the product safely, you MUST carefully read all Warnings and Cautions in this catalog.

1. Cautions related to operation

- Use the personal protective equipment to prevent injury when the product is in operation.

- Some components are heavy. Handle the product carefully not to hurt your hands and lower back.

- Do not step on, hit or drop , or apply strong force to the product, as these actions may cause operation failure, product damage, or oil leakage.

- Wipe off any oil on the product or the floor completely, as oil can create slippery conditions that may cause drop of the product and personal injury.

2. Warnings and Cautions related to installation and removal of the product

- Installation, removal, piping, and wiring must be done by a qualified technician.

- Make sure that the hydraulic power unit is turned off and that the electric motor or engine has completely stopped before starting installation or removal. You must also check that the system pressure has dropped to zero.

- Make sure that the power source is turned off before installing electric components to reduce the risk of electric shock.

- Clean the threads and the mounting surface to prevent damage or oil leakage. Inadequate cleaning may cause insufficient torque and broken seals.

- Use the designated bolts and fasten them with prescribed torque when installing the product. Use of undesignated bolts, and excessive or insufficient tightening torque may induce operation failure, damage, or oil leakage.

3. Warnings and Cautions for operation

- Always equip the product with explosion or ignition protection if it is used in potentially explosive or combustible atmospheres.

- Shield rotating parts, such as the motor and pump shaft, to avoid injuries.

- Stop operation immediately, and take proper measures when the abnormality such as unusual noise, oil leakage, and smoke is found. Continuing operation under such condition may bring about damage, a fire hazard, or injury.

- Make sure that all pipes, hoses, and connecting points with pipes or hoses, are correctly connected and tightened before starting operation.

- Use the product under the operating conditions and limitations described in the catalog, drawings, and specification sheets.

- Do not touch the product in operation. to reduce the risk of skin burn.

- Use the proper hydraulic oil and maintain the filtration at the recommended level to prevent premature wear and damage.

4. Cautions related to maintenance

- Never modify the product without approval from Kawasaki.

- Disassembly of the product may void the warranty.

- Keep the product clean and dry when storing or transporting.

- The seals may need to be replaced if the product has been stored for an extended period of time.

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III. Handling Precautions

1. Operating Fluid and Temperature Range

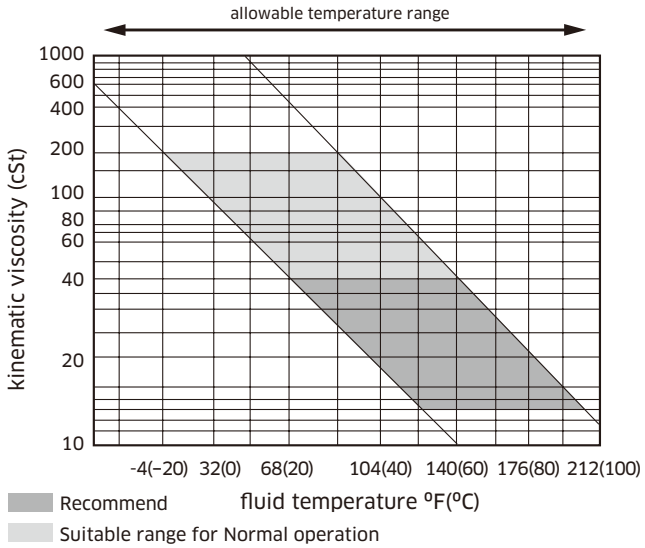
1) Operating fluid

Values shown in this catalog are based upon using mineral based anti-wear hydraulic fluid. To ensure optimal performance, use of mineral based anti-wear hydraulic fluid is recommended.

2) Viscosity and Temperature Range

To minimize both oil and seal deterioration, a maximum operating temperature of 60°C should be maintained. Additionally it must be noted that when operating at low temperatures in winter 59 ~ 68°F (15 ~ 20°C) some delay in response of the regulator may occur. At such low temperatures it is strongly suggested that a warm up cycle is introduced until an operating temperature of 68°F (20°C) is achieved.

	Suitable range for Normal operation	Allowable range
Viscosity [mm²/s(cSt)]	10 ~ 200	10 ~ 1,000
Fluid Temperature [°F (°C)]	- 4 ~ +203 (-20 ~ +95)	



2. Filtration and Contamination Control

1) Filtration

The most important means to prevent premature damage to the pump and associated equipment and to extend its working life, is to ensure that hydraulic fluid contamination control of the system is working effectively.

This begins by ensuring at the time of installation that all piping, tanks etc. are rigorously cleaned in a sanitary way. Flushing should be provided using an off line filtration system and after flushing the filter elements should be replaced.

A full flow return line filter of 10 micron nominal should be utilized to prevent contaminant ingress from the external environment, a 5 to 10 micron filter with the tank's breather is also recommended.

2) Suggested Acceptable Cleanliness Level

The relationship between contamination level and pump life is very difficult to predict as it depends on the type and nature of the contaminant present in the system. Sand or Silica in particular, due to its abnrasive nature, does significantly reduce the expected life of a pump. Based on the precondition that there is no significant presence of Silica type substances then a minimum Cleanliness level of -/18/15 ISO 4406 or SAE AS 4059E Table 1 Class 9 (NAS 1638 Class 9).

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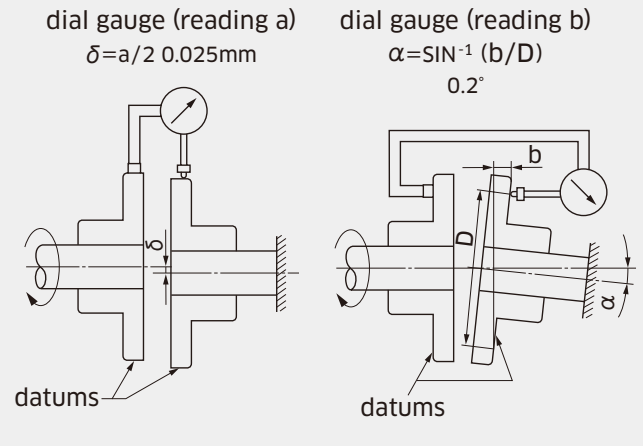
3. Drive Shaft Coupling

Alignment between the prime mover and the pump shaft should be within 0.05 mm TIR*. In case the pump is directly coupled to the engine flywheel, use a flexible coupling.

*TIR = Total Indicator Reading



4. Oil Filling and Air Bleeding

1) Pump Case Filling

Be sure to fill the pump casing with oil through the drain port, filling only the suction line with oil is in-sufficient. The pump contains bearings and high-speed sliding parts including pistons with shoes and a spherical bushing that need to be continuously lubricated. Part seizure or total premature failure will occur very quickly if this procedure is not rIgidly followed.

2) Air Bleeding

Run the pump unloaded for a period to ensure that all residual air within the system is released.

3) Long Term Storage

It is undesirable to leave the pump out of use for a long period e.g. a year or more. In such a situation it is recommended that the pump is run for a short period on a more frequent basis even if it is just unloaded. With regard to a pump held in storage then rotating the shaft on a frequent basis is sufficient. If the pump is left out for more than the suggested time it will require a service inspection.

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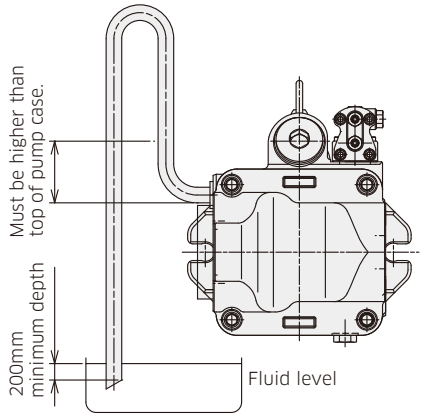
5. Drain Piping

1) Installation of Drain Line

The best practice is to mount the pump with the case drain piping initially rising above the pump before continuing to the tank. Do not connect the drain line to the inlet line.



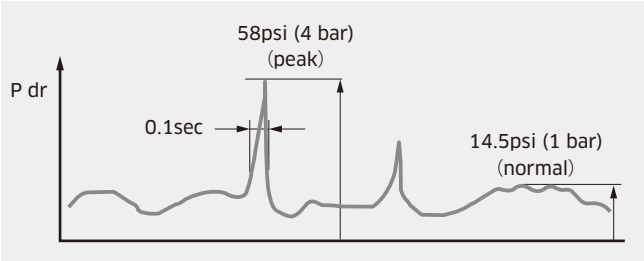
Cautions

A) Inlet and drain pipes must be immersed by 7.8" (200mm) minimum from the lowest level under operating conditions.

B) Height from the oil level to the center of the shaft must be within 40" (1 meter) maximum.

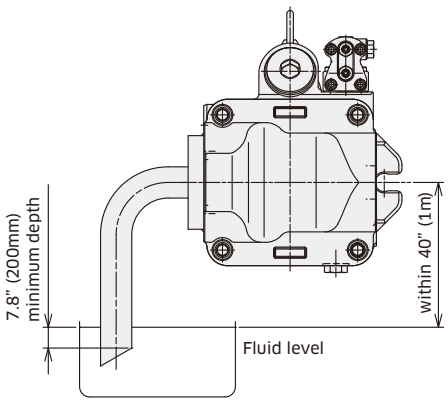
C) The oil in the pump case must be refilled when the pump has not been operated for one month or longer.

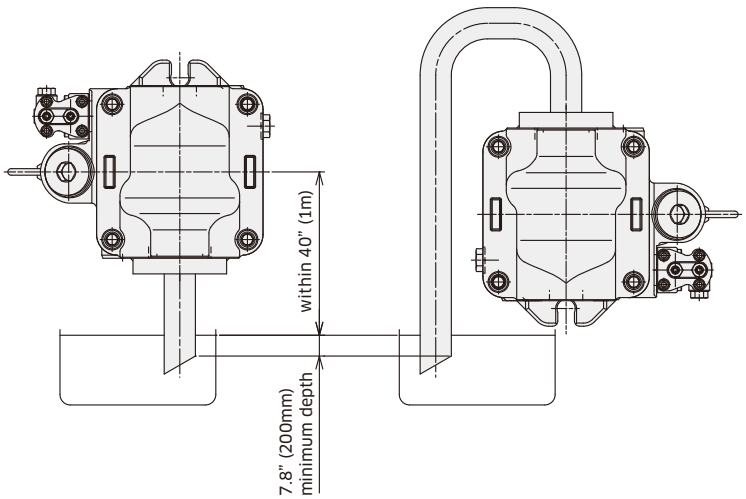
The uppermost drain port should be used and the drain piping should be equal or larger in size than the drain port to minimize pressure in the pump case. The pump case pressure should not exceed 14.5 psi (1 bar) as shown in the illustration below. (Peak pressure should never exceed 58 psi (4 bar).)



Mounting the Pump Above the Tank

Suction line





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2) Size of Drain Hose or Drain Pipe

The internal bore size of the drain hose or drain pipe must be larger than that of the drain port. Arrange the drain line as short as possible.

6. Shaft Loading and Bearing Life

Although K3VLS pumps are equipped with bearings that can accept some external thrust and radial forces, application of such loads will affect bearing life. Depending on the load magnitude , the load position, and the load orientation, bearing life may be significantly reduced.

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IV. Conversion Factors, Formula and Definition

• Conversion Factors

	Formula	Note
Displacement	1 cm^3 = 0.061 in^3	
Pressure	1 MPa = 145 psi	
Flow	1 L/min = 0.264 gpm	US gallon
Torque	1 Nm = 0.74 lb ft	
Power	1 kW = 1.341 hp	
Weight	1 kg = 2.205 lbs	

• Formula

	Metric system		Imperial system	
Output flow	Q = q x N x n_v / 1000	L/min	Q = q x N x n_v / 231	gal/min
Input torque	T = q x ΔP / 2π / n_m	Nm	T = q x ΔP / 24π / n_m	lbf ft
Input power	L = T x N / 9550 = Q x ΔP / 60 / n_t	kW	L = T x N / 5252 = Q x ΔP / 1714 / n_t	hp

• Definition

q	=	Pump displacement / rev.	cm^3 (in^3)
L	=	Input power	kW (hp)
N	=	Speed	min^{-1} (rpm)
ΔP	=	P_d - P_s	MPa (psi)
P_d	=	Pump delivery pressure	MPa (psi)
P_s	=	Pump suction pressure	MPa (psi)
P_L	=	Load sensing pressure	MPa (psi)
P_{dr}	=	Pump case pressure	MPa (psi)
P_f	=	Power shift pressure	MPa (psi)
P_{sv}	=	Servo pressure	MPa (psi)
T	=	Input torque	Nm (lbf-ft)
T_{max}	=	Maximum input torque	Nm (lbf-ft)
n_v	=	Pump volumetric efficiency	
n_m	=	Pump mechanical efficiency	
n_t	=	Pump total efficiency	

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MEMO

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K3VLS Series

Swash Plate Type Axial Piston Pump

• Specifications

Size : 50*, 65, 85, 105, 125*, 150*
Rated Pressure : 4060psi (280 bar)
Peak Pressure : 5075psi (350 bar)

• General Descriptions

The K3VLS are variable displacement axial piston pumps of swash plate design, suitable for use in mobile applications and industrial vehicles with medium pressure hydraulic systems.

The K3VLS pumps enable flexible configuration in a wide range of applications with their compact size and light weight design.

The K3VLS series pumps are available in sizes (rated displacement) ranging from 50 to 150 cm^3/rev with various control options, such as load sensing, pressure cut-off, and horsepower controls.

• Features

- Variable axial piston pump of swash plate design in open circuits
- High overall efficiency
- Compact size
- Light weight
- Excellent reliability
- Numerous control options
- High stability
- Highly responsive controls

(*) means under development

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1 Ordering Code

1-1 Pump Options

	1		2	3	4	5	6	7	8		9	10	11	12
Model Code	K3VLS		105	-	1	BB	R	CC	S	-	L1	A	A	M1

1. K3VLS Series Pump
K3VLS Series, Variable Displacement,
Axial Piston, Open Loop Pump

2. Pump Size

	65	85	105
Maximum Displacement cm³	●	●	●

3. O-ring Material (Shaft seal in Viton only)

-	NBR O-ring seals

4. Series Type Code

1	Standard type

5. Through Drive and Porting

		65	85	105
0	Without Through Drive, Side Ported	●	●	●
A	SAE-A Through Drive, Side Ported	●	●	●
B	SAE-B Through Drive, Side Ported	●	●	●
BB	SAE-BB Through Drive, Side Ported	●	●	●
C	SAE-C, 2/4 bolt, Through Drive, Side Ported	●	●	●
CC	SAE-CC, 2/4 bolt, Through Drive, Side Ported	—	—	●
D	SAE-D Through Drive, Side Ported	—	—	—
N	With Through Drive Shaft, Without Coupling, Closed with Steel Cover,Side Ported	●	●	●
R	Without Through Drive, Rear Ported	●	●	●

6. Direction of rotation

		65	85	105
R	Clockwise	●	●	●
L	Counterclockwise	●	●	●

7. Mounting Flange and Shaft

		65	85	105
B	SAE-B Mount & SAE-B Spline	●	—	—
BB	SAE-B Mount & SAE-BB Spline	●	—	—
C	SAE-C Mount & SAE-C Spline	●	●	●
CC	SAE-C Mount & SAE-CC Spline	—	—	●
D	SAE-D Mount & SAE-D Spline	—	—	—

8. Thread Type (Suction/Delivery)

		65	85	105
S	SAE 4-bolt Flange, UNC Threaded	●	●	●
M	SAE 4-bolt Flange, Metric Threaded	●	●	●

● :Available
— :Not available

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1. Ordering Code

1-2 Regulator Options

	1	2	3	4	5	6	7	8		9	10	11	12
Model Code	K3VLS	105	-	1	BB	R	CC	S	-	L1	A	A	M1

9. Flow Control

	Load Sense & Pressure Cut-Off	65	85	105
L0	with LS Bleed-off Orifice	●	●	●
L1	without LS Bleed-off Orifice	●	●	●

10. Differential Pressure Setting Range (For the details see page 14)

		65	85	105
A	Standard Setting Range (1.0~3.0MPa)	●	●	●
C	High Setting Range (1.5 ~ 4.0MPa)	●	●	●

11. Additional Control Options

		65	85	105
Blank	Without Any Additional Control	●	●	●

	Torque Limit Control	65	85	105
A	without Power Shift Control	○	○	○
B	with Power Shift Control Pilot operated	○	○	○
	with Electric Proportional Reducing Valve			
C1	Voltage:24V	○	○	○
C2	Voltage:12V	○	○	○

12. Torque Limit Setting (Available only with the attachment of Torque Limiter)

**	For Torque Limiting Refer To Horsepower Setting Codes (Under Preparation)

● : Available
○ : Under development

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2 Technical Information

2-1 Specifications

Size			65	85	105
Displacement		in³ (cm³)	4.0 (65)	5.2 (85)	6.4 (105)
Pressure	Rated	psi (bar)	4060 (280)		
	Peak	psi (bar)	5875 (350)		
Allowable case pressure		psi (bar)	14.5 (1.0 continuous / 62 (4) peak		
Speed	Self prime*1	min⁻¹	2,600	2,500	2,300
	Maximum*2	min⁻¹	3,000	3,000	2,640
Case volume		gal (L)	.27 (1.0)	.32 (1.2)	.45 (1.7)
Temperature range		°F (°C)	−4 ~ +203 (−20 ~ +95)		
Viscosity range		cSt	10 ~ 1,000		
Maximum contamination level			ISO 4406 -/18/15		
Allowable through drive torque lb-ft(Nm)	SAE A		91 (123)	91 (123)	91 (123)
	SAE B		280 (380)	280 (380)	280 (380)
	SAE BB		321 (435)	321 (435)	321 (435)
	SAE C		–	321 (435)	321 (435)
Mass		lbs (kg)	49 (22)	66 (30)	82 (37)
Moment of Inertia (GD²)		N-m²	1.64×10⁻²	2.21×10⁻²	3.33×10⁻²
Torsional Stiffness		Nm/rad	5.26×10⁴	6.74×10⁴	1.32×10⁵

*1: Self prime speed is the maximum operating speed under the self priming condition at maximum displacement. Steady state inlet pressure should be greater or equal to 0 psi (0 bar) gauge.

*2: Maximum speed is the maximum operating speed that can run without damage to the pump under restriction of operating conditions.

• Allowable Maximum Input Torque

	SAE B	SAE BB	SAE C	SAE CC
Spline Specification	13T DP=16/32	15T DP=16/32	14T DP=12/24	17T DP=12/24
Allowable Maximum Input Torque lb-ft (Nm)	148 (200)	232 (315)	465 (630)	782 (1,060)
Pump Size	K3VLS65	K3VLS65	K3VLS65/85/105	K3VLS105

Input spline specification is based on SAE J744.
The shaft surface will have a finite life due to wear unless adequate lubrication is provided.

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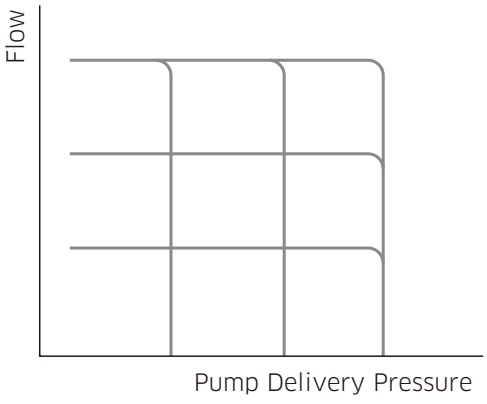
2-2 Functional Description of Regulator

• L0 / L1: Load Sensing and Pressure Cut-off

This regulator has function of flow and pressure control (i.e. load sensing control and pressure cut-off control.)
To control flow a variable orifice is used. (A variable orifice is not included in the pump and shall be prepared separately.) Pump displacement is controlled to maintain the differential pressure across the orifice constant. The flow is controlled to a required flow regardless of pump delivery pressure. In addition, there is a pressure cut off function incorporated into the control. The pressure cut-off function overrides the flow control function.

L0 control: with a bleed off orifice
L1 control: without a bleed off orifice

Releasing the pressure at port PL results in standby condition, which provides zero flow at unloading condition. The unloading pressure is typically 14.5psi (1 bar) ~ 29psi (2 bar) higher than differential pressure setting.



Flow, Pressure control curve

• Differential pressure setting range
Load sensing differential pressure range can be selected from two setting ranges. The factory setting of the differential pressure is 1.5 MPa.

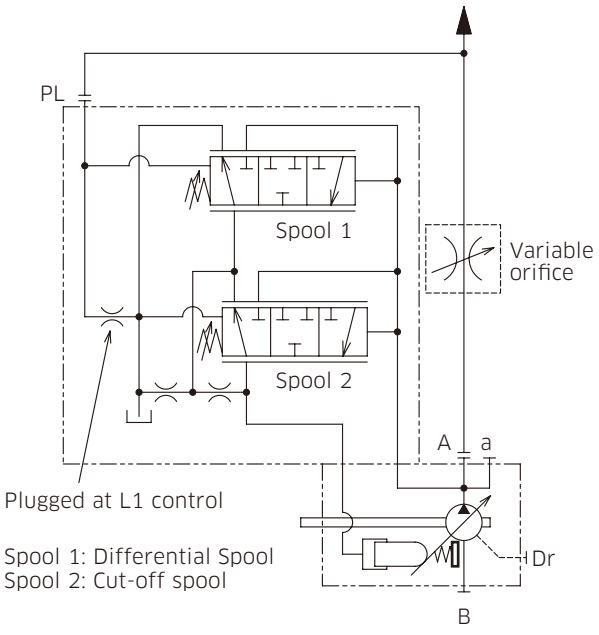
unit: MPa

Code	Adjustment range	Adjustment sensitivity
A	1.0 ~ 3.0	1.3 / turn
C	1.5 ~ 4.0	2.5 / turn

■ Pressure cut-off setting range
The pressure cut-off setting range is from 2MPa to 28MPa, as shown below. The factory setting of the cut-off pressure is 28 MPa.

unit: MPa

Adjustment range	Adjustment sensitivity
2.0 ~ 28.0	8.0 / turn



Hydraulic Circuit

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2-2 Functional Description of Regulator

• Torque Limiter(*1)

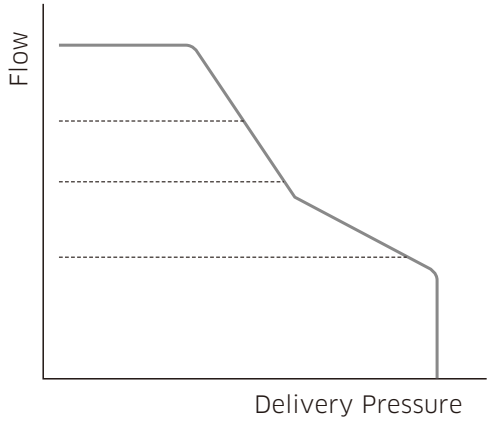
(Torque limit control code: A)

L0/L1 control functions as previously noted. In response to a rise in delivery pressure the swash plate angle is decreased, restricting the input torque. This regulator prevents excessive load against the prime mover.

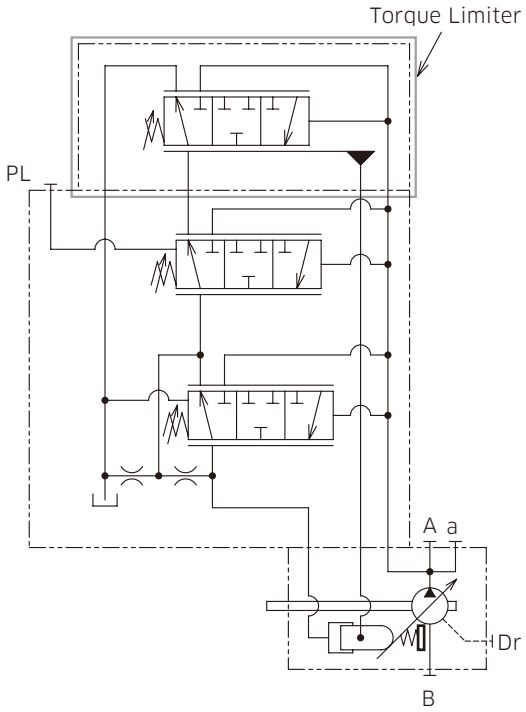
The torque limit control module is comprised of two springs that oppose the spool force generated by the system pressure. By turning the adjustment screws, the appropriate input torque limit can be set.

Specify the required torque setting when ordering.

(*1): Torque limiter control is under development.



Torque limiter control curve



Hydraulic Circuit

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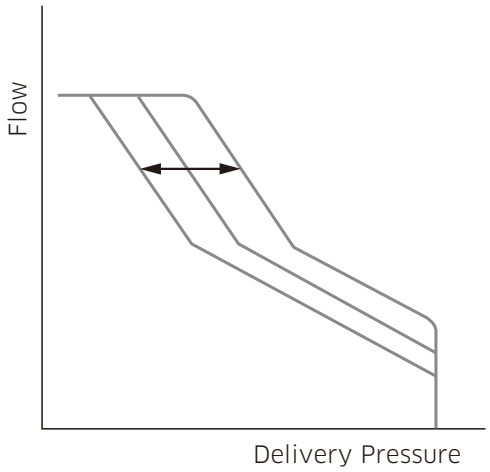
2-2 Functional Description of Regulator

• Torque Limiter with Power shift(*1)

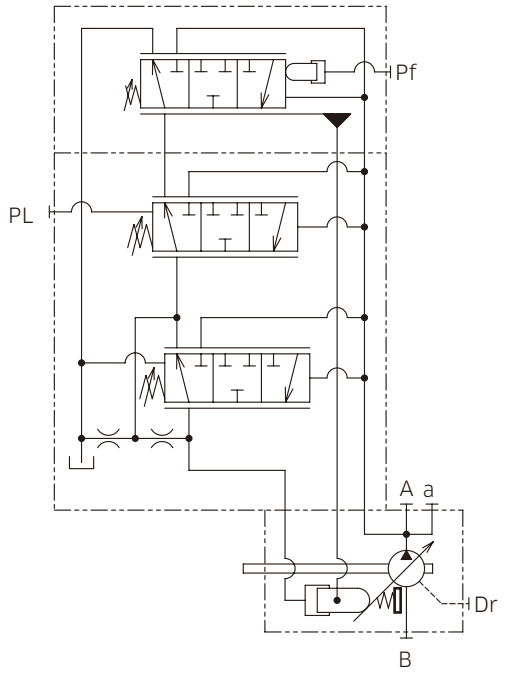
(Torque limit control code: B, C)

Torque limiter is available with variable torque limit control. Torque limit setting can be varied by the external pilot pressure supply (code “B”) or the integrated electric proportional control valve with the external servo pressure supply (code “C”).
Code “B” and “C” enable to shift the power control setting as shown in the following torque limiter control characteristic curve.
Specify the required variable torque setting range when ordering.

(*1): Torque limiter control is under development.

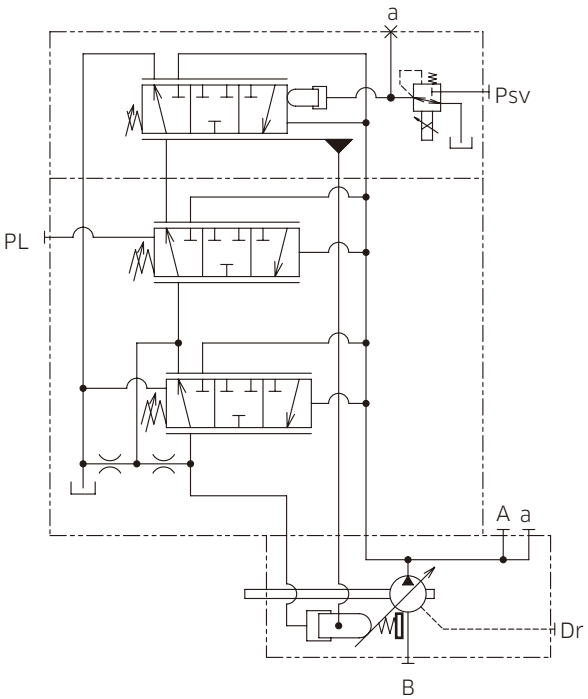


Torque limiter control curve



External pilot pressure (Pf) range: 0 ~ 58psi (0 ~ 40psi)

Hydraulic circuit, code B



Minimum required servo pressure (Psv): 508psi (35bar)

Hydraulic circuit, code C

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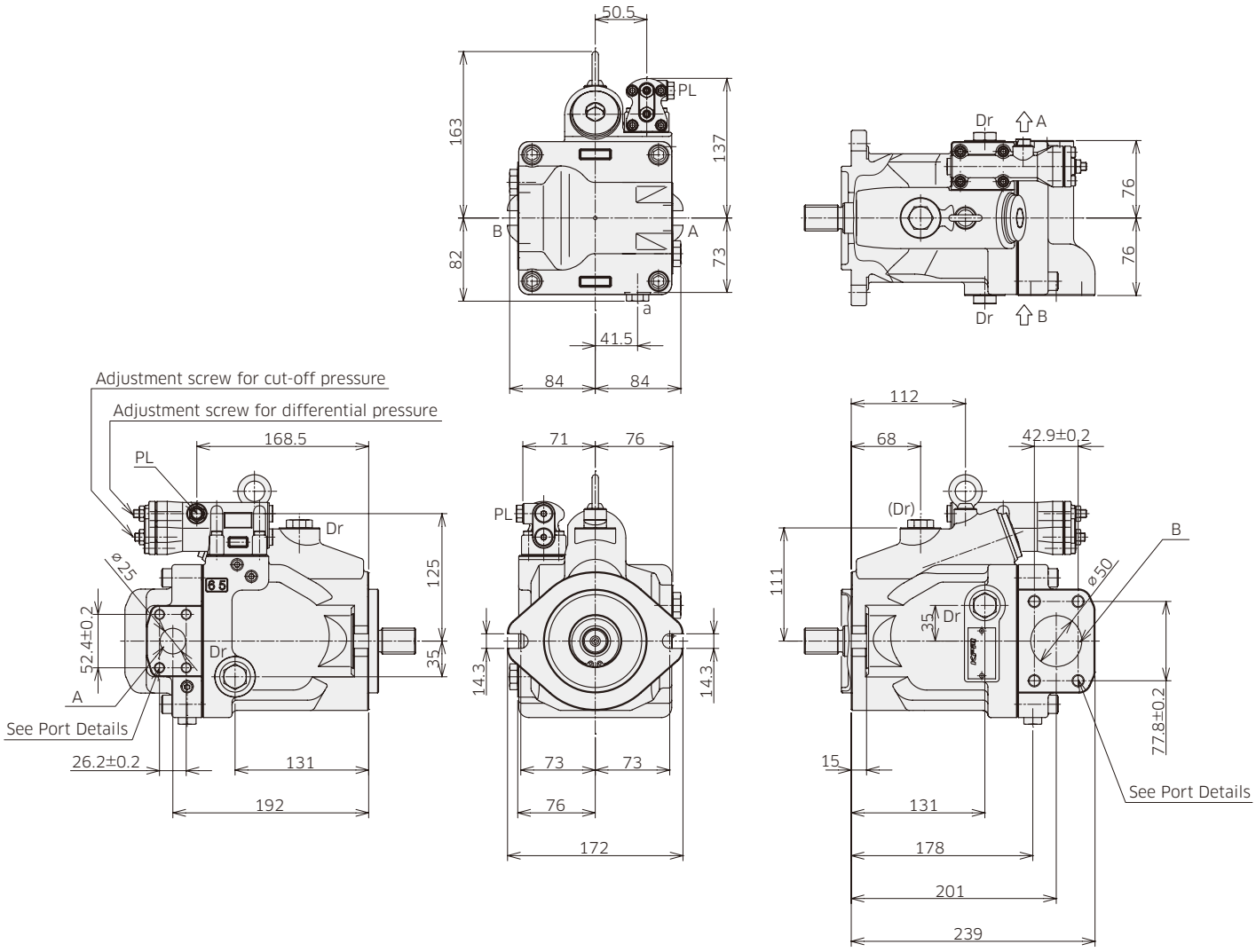
3 Dimensions

3-1 Installation Dimensions

* Dimensions in mm.

K3VLS65

- **K3VLS65 with Cut-off/Load Sense Control (Clockwise Rotation)**



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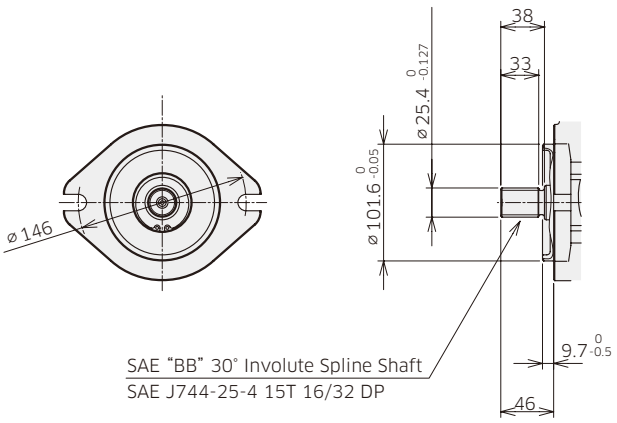
3-1 Installation Dimensions

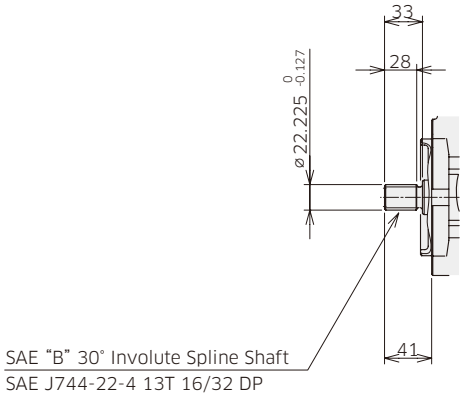
* Dimensions in mm.

• K3VLS65 Mounting Flange and Shaft Options

SAE BB Spline Shaft



SAE B Spline Shaft



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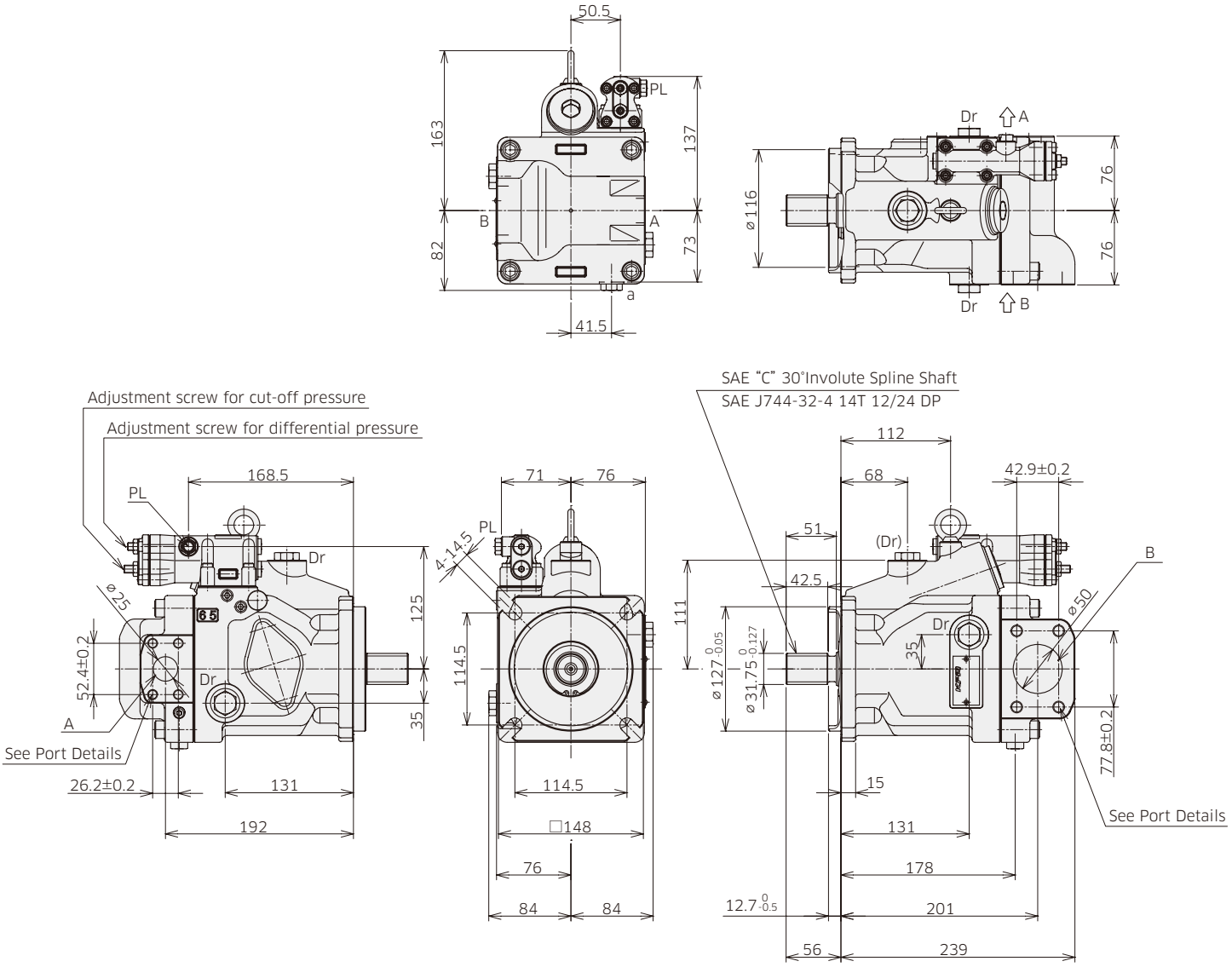
3-1 Installation Dimensions

* Dimensions in mm.

• K3VLS65 with Cut-off/Load Sense Control (Clockwise Rotation, SAE C-4 Mount Type)



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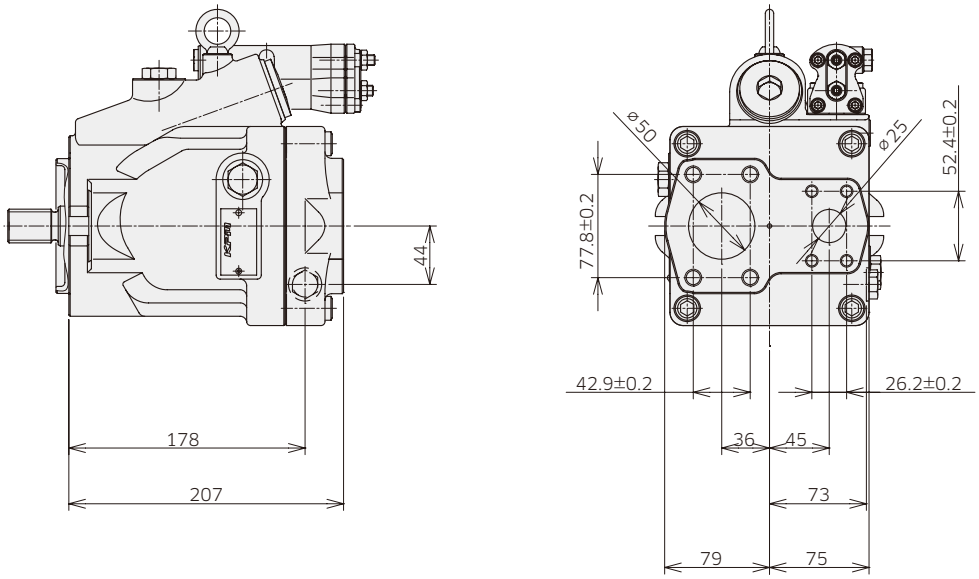
3. Dimensions

3-1 Installation Dimensions

* Dimensions in mm.

• K3VLS65 Rear Port (Clockwise Rotation)



• K3VLS65 Porting Details

Main SAE Flanged Ports

Des	Port name	Port size	Flange Threads

UNF Threaded Version ('S' in position 8 of model code)

A	Delivery Port	SAE J518C std pressure (code 61) 1"	3/8-16UNC-2B-17
B	Suction Port	SAE J518C std pressure (code 61) 2"	1/2-13UNC-2B-20

Metric Version ('M' in position 8 of model code)

A	Delivery Port	SAE J518C std pressure (code 61) 1"	M10-17
B	Suction Port	SAE J518C std pressure (code 61) 2"	M12-20

Auxiliary Ports

Des	Port name	Port size

SAE Version

Dr	Drain Port	3/4-16 UNF-2B-14.3 (ISO 11926-1: 1995)
PL	Load Sensing Port	7/16-20 UNF2B-11 (ISO 11926-1: 1995)
a	Gauge Port	9/16-18 UNF-2B-12.7 (ISO 11926-1: 1995)

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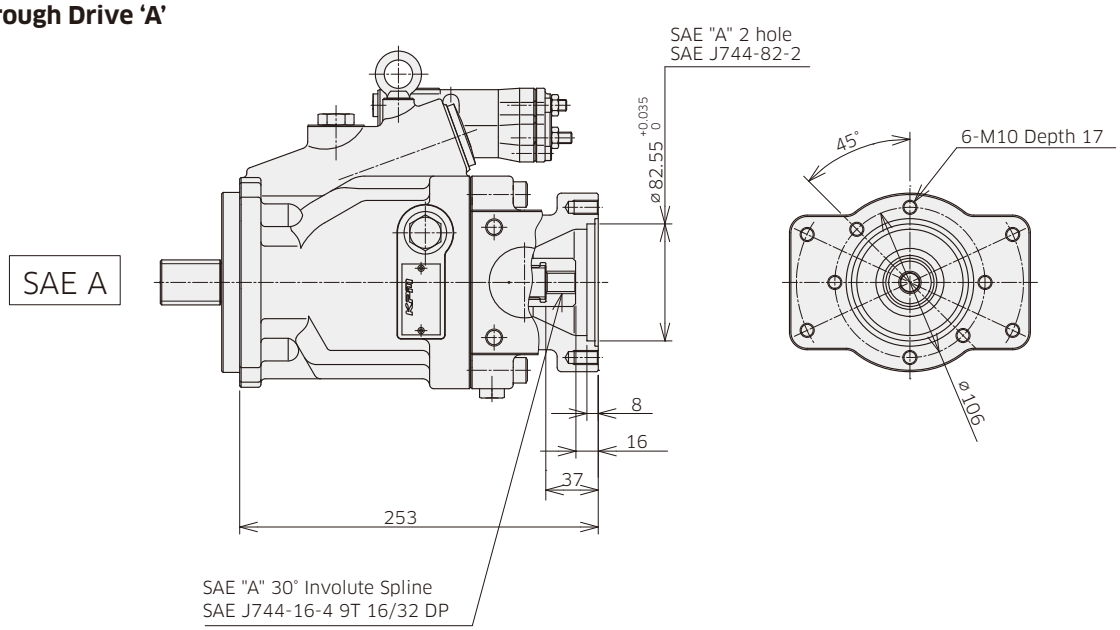
3-1 Installation Dimensions

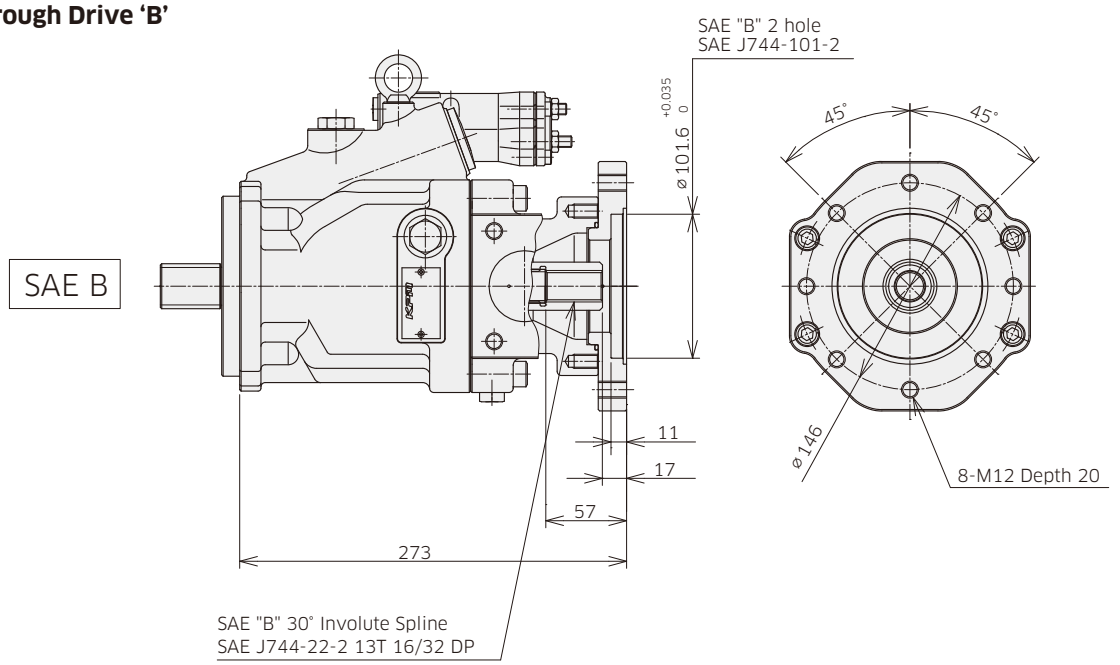
* Dimensions in mm.

• K3VLS65 Through Drive Options

Through Drive 'A'



Through Drive 'B'



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3. Dimensions

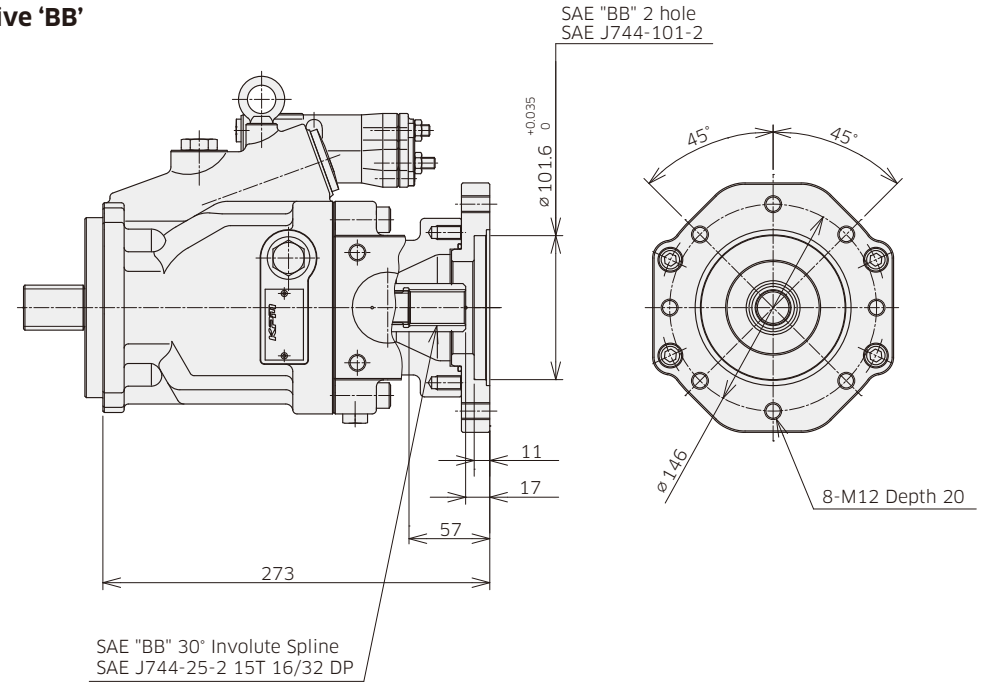
3-1 Installation Dimensions

* Dimensions in mm.

• K3VLS65 Through Drive Options

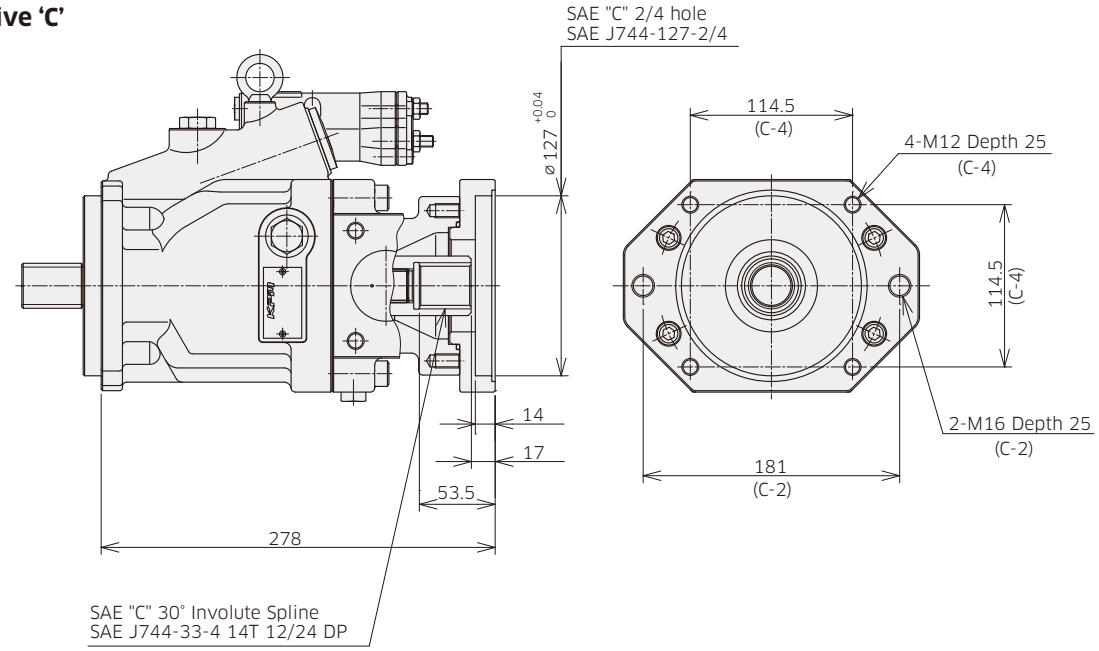
Through Drive 'BB'

SAE BB



Through Drive 'C'

SAE C



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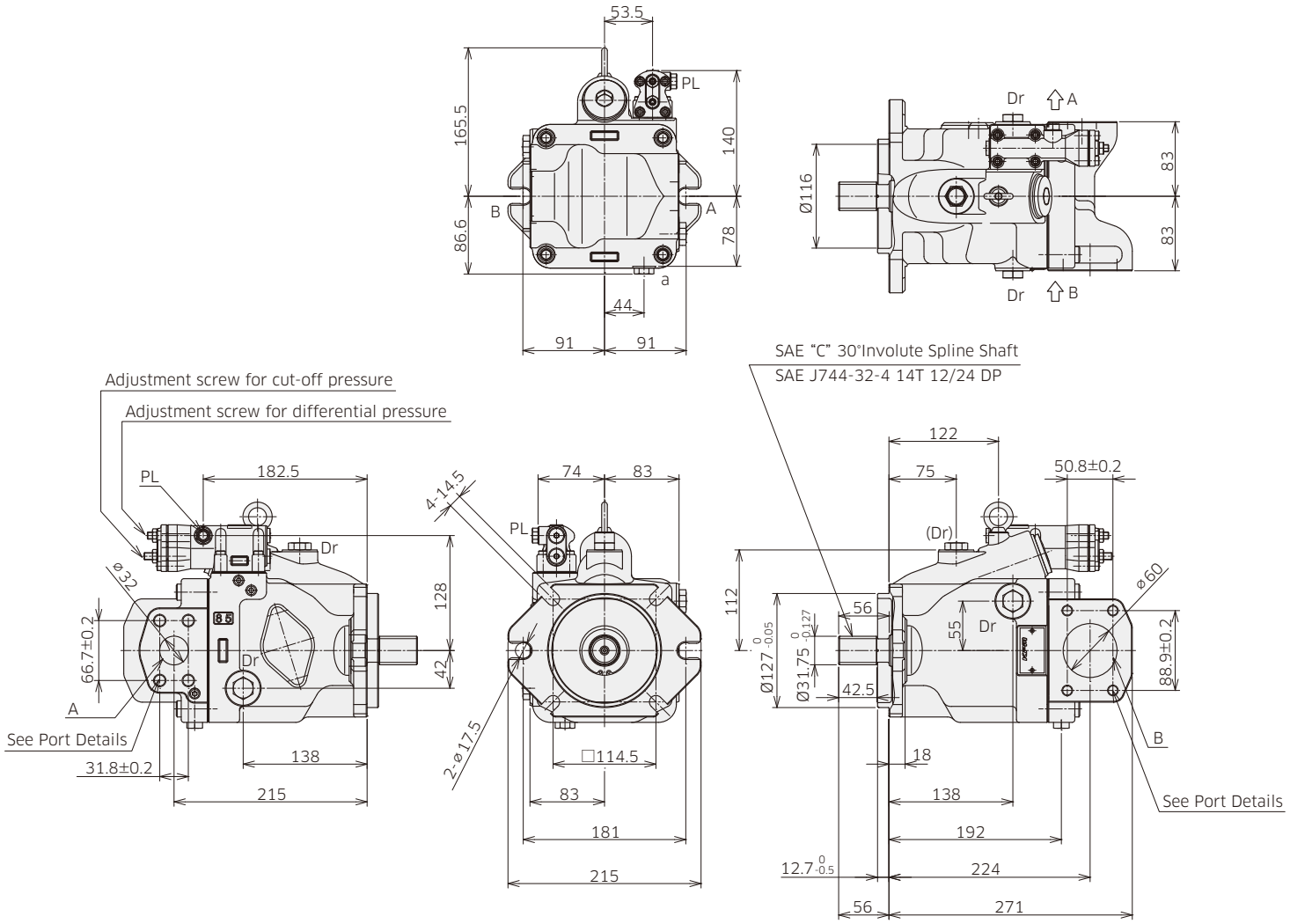
3-1 Installation Dimensions

* Dimensions in mm.

K3VLS85

• K3VLS85 with Cut-off/Load Sense Control (Clockwise Rotation)



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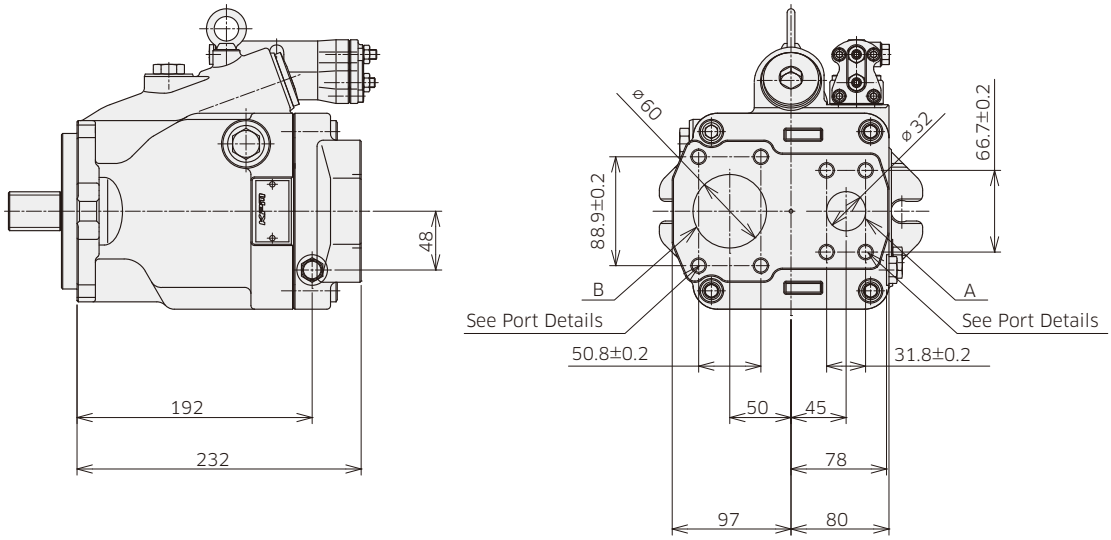
3. Dimensions

3-1 Installation Dimensions

* Dimensions in mm.

• K3VLS85 Rear Port (Clockwise Rotation)



• K3VLS85 Porting Details

Main SAE Flanged Ports

Des	Port name	Port size	Flange Threads

UNF Threaded Version ('S' in position 8 of model code)

A	Delivery Port	SAE J518C high pressure (code 62) 1-1/4"	1/2-13UNC-2B-22
B	Suction Port	SAE J518C std pressure (code 61) 2-1/2"	1/2-13UNC-2B-22

Metric Version ('M' in position 8 of model code)

A	Delivery Port	SAE J518C high pressure (code 62) 1-1/4"	M14-23
B	Suction Port	SAE J518C std pressure (code 61) 2-1/2"	M12-22

Auxiliary Ports

Des	Port name	Port size

SAE Version

Dr	Drain Port	3/4-16 UNF-2B-14.3 (ISO 11926-1: 1995)
PL	Load Sensing Port	7/16-20 UNF2B-11 (ISO 11926-1: 1995)
a	Gauge Port	9/16-18 UNF-2B-12.7 (ISO 11926-1: 1995)

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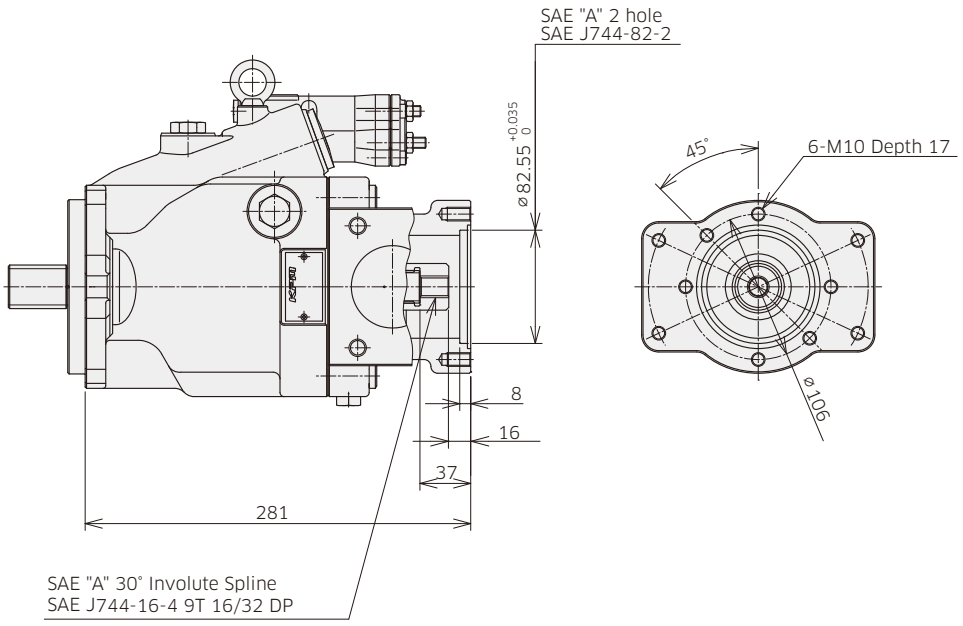
3-1 Installation Dimensions

* Dimensions in mm.

• K3VLS85 Through Drive Options

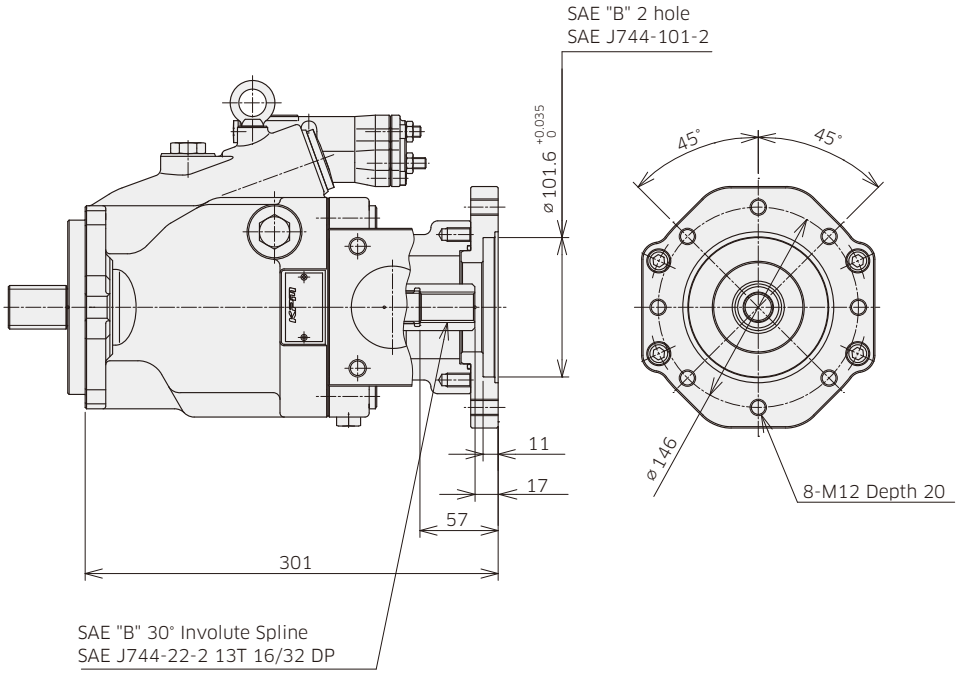
Through Drive 'A'

SAE A



Through Drive 'B'

SAE B



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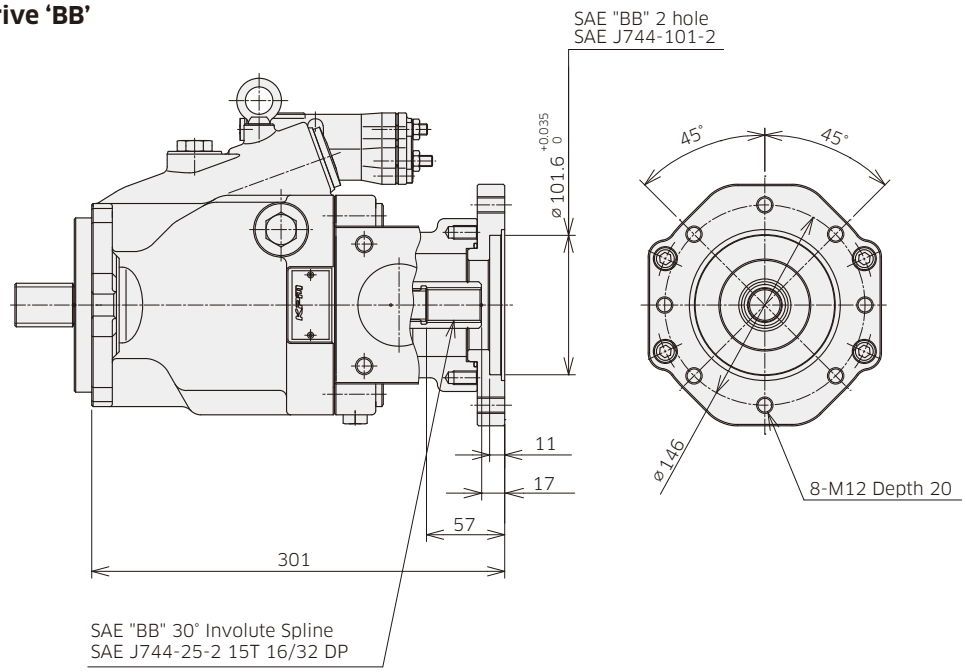
3-1 Installation Dimensions

* Dimensions in mm.

• K3VLS85 Through Drive Options

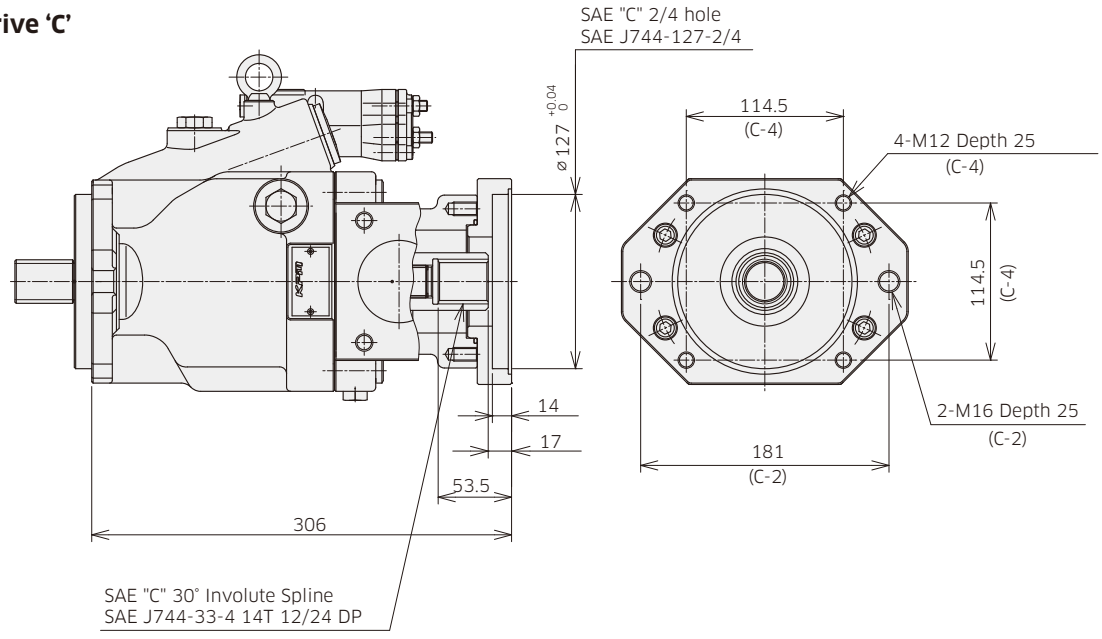
Through Drive 'BB'

SAE BB



Through Drive 'C'

SAE C



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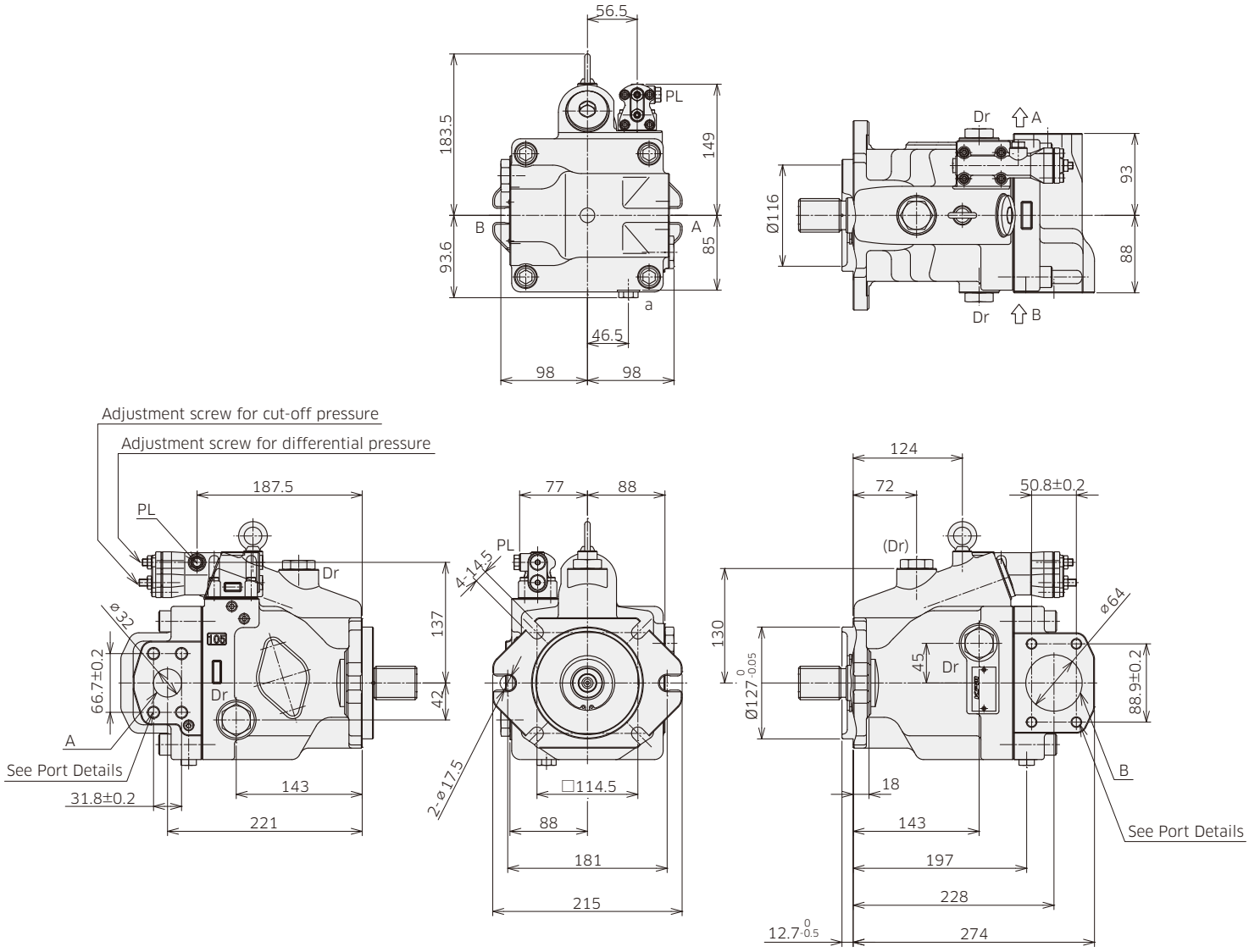
3-1 Installation Dimensions

* Dimensions in mm.

K3VLS105

• K3VLS105 with Cut-off/Load Sense Control (Clockwise Rotation)



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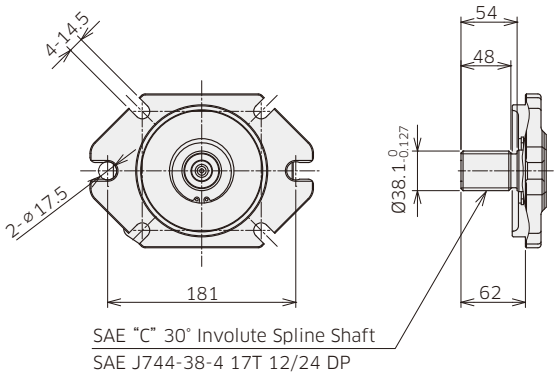
3. Dimensions

3-1 Installation Dimensions

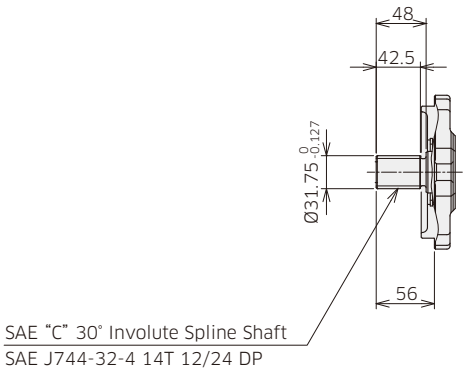
* Dimensions in mm.

• K3VLS105 Mounting Flange and Shaft Options

SAE CC Spline Shaft



SAE C Spline Shaft



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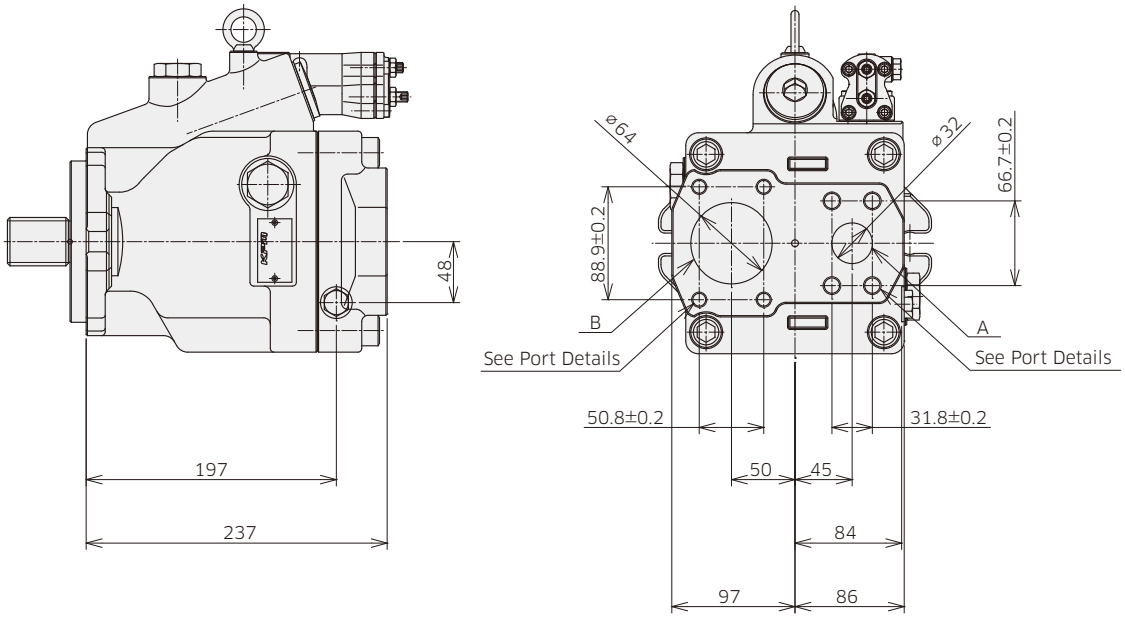
3-1 Installation Dimensions

* Dimensions in mm.

• K3VLS105 Rear Port (Clockwise Rotation)



• K3VLS105 Porting Details

Main SAE Flanged Ports

Des	Port name	Port size	Flange Threads

UNF Threaded Version ('S' in position 8 of model code)

A	Delivery Port	SAE J518C high pressure (code 62) 1-1/4"	1/2-13UNC-2B-22
B	Suction Port	SAE J518C std pressure (code 61) 2-1/2"	1/2-13UNC-2B-22

Metric Version ('M' in position 8 of model code)

A	Delivery Port	SAE J518C high pressure (code 62) 1-1/4"	M14-23
B	Suction Port	SAE J518C std pressure (code 61) 2-1/2"	M12-22

Auxiliary Ports

Des	Port name	Port size

SAE Version

Dr	Drain Port	1 1/16-12 UN-2B-19 (ISO 11926-1: 1995)
PL	Load Sensing Port	7/16-20 UNF-2B-11 (ISO 11926-1: 1995)
a	Gauge Port	9/16-18 UNF-2B-12.7 (ISO 11926-1: 1995)

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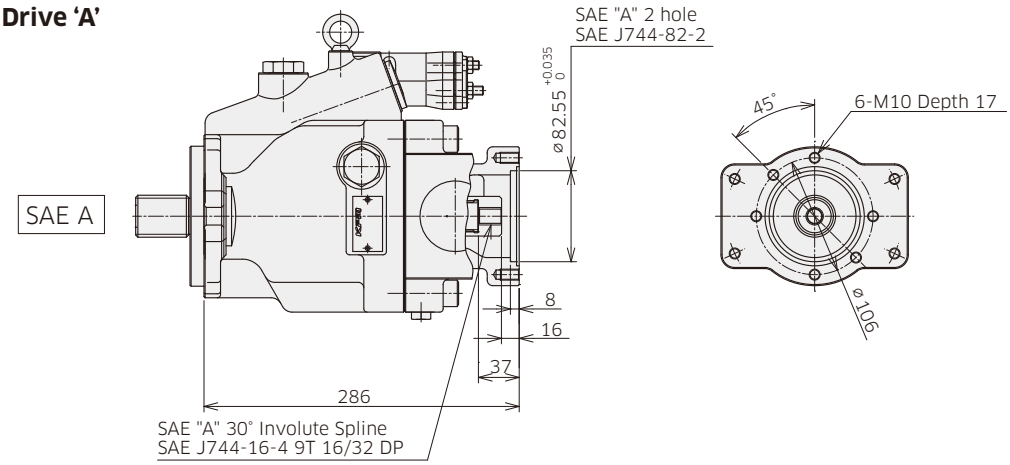
3. Dimensions

3-1 Installation Dimensions

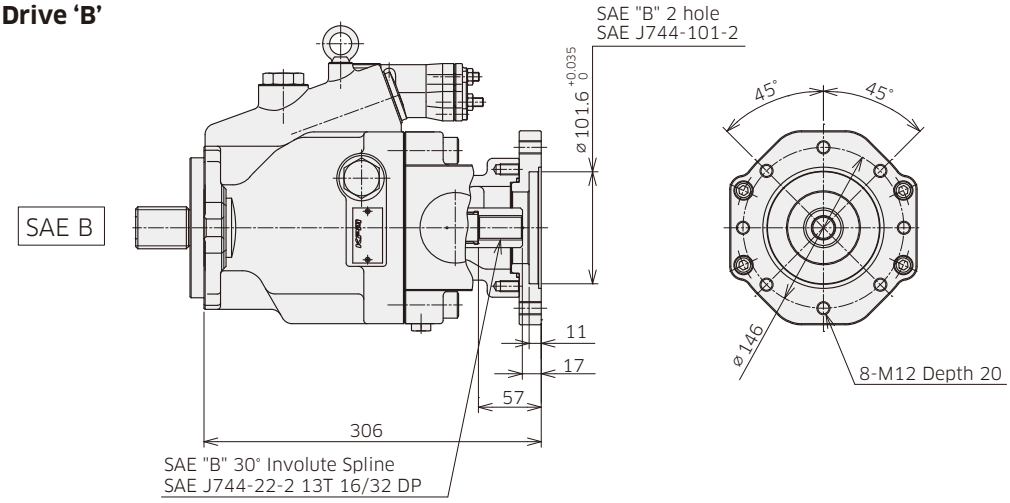
* Dimensions in mm.

• K3VLS105 Through Drive Options

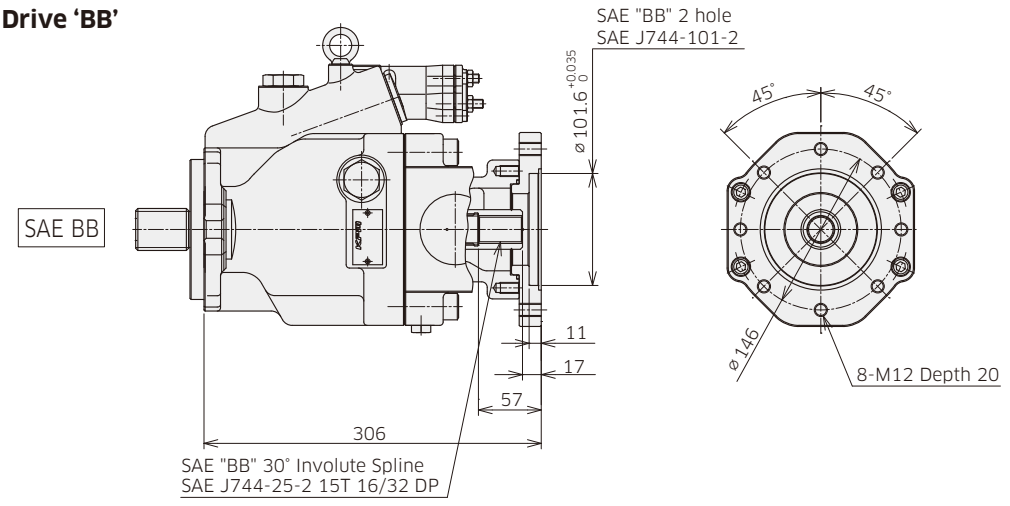
Through Drive 'A'



Through Drive 'B'



Through Drive 'BB'



Involute spline according to ANSI B92.1a, 30° pressure angle, flat root, side fit

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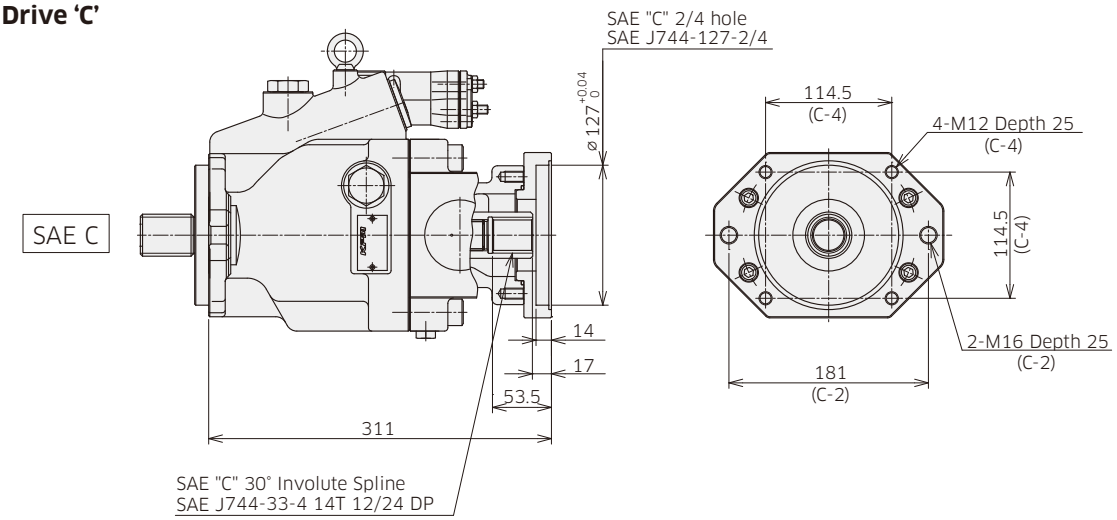
3-1 Installation Dimensions

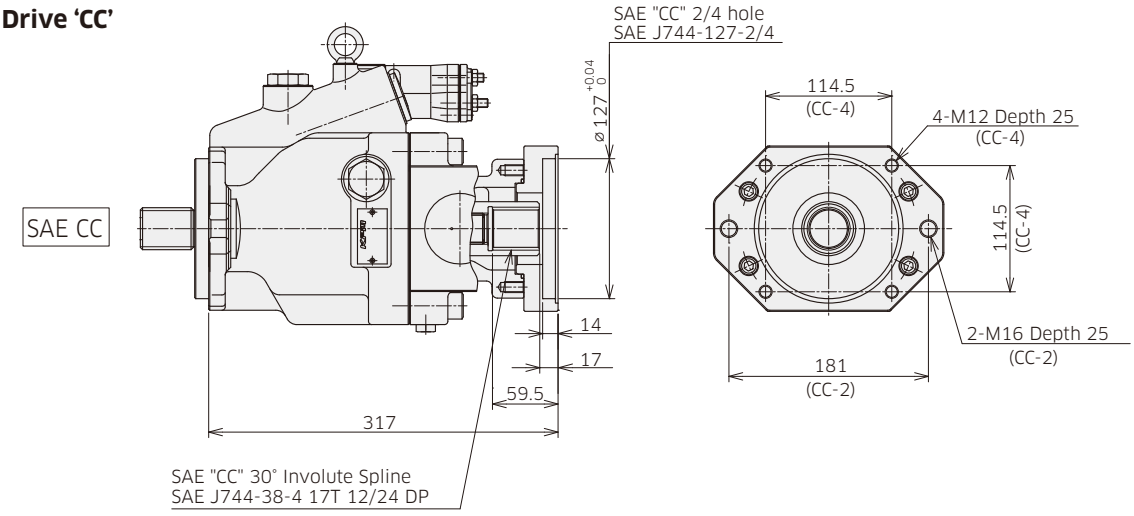
* Dimensions in mm.

• K3VLS105 Through Drive Options

Through Drive 'C'



Through Drive 'CC'



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3-2 Installation of Auxiliary Pumps

• Allowable Mass Moment for Combination Pump

K3VLS series can consist of multiple pumps using through drive mounting. The second pump can be attached up to the same size of the first pump. The table below shows the maximum allowable mass moment to the mounting flange of the first pump under the dynamic acceleration of 10G. The moment can be calculated by the formula shown below.

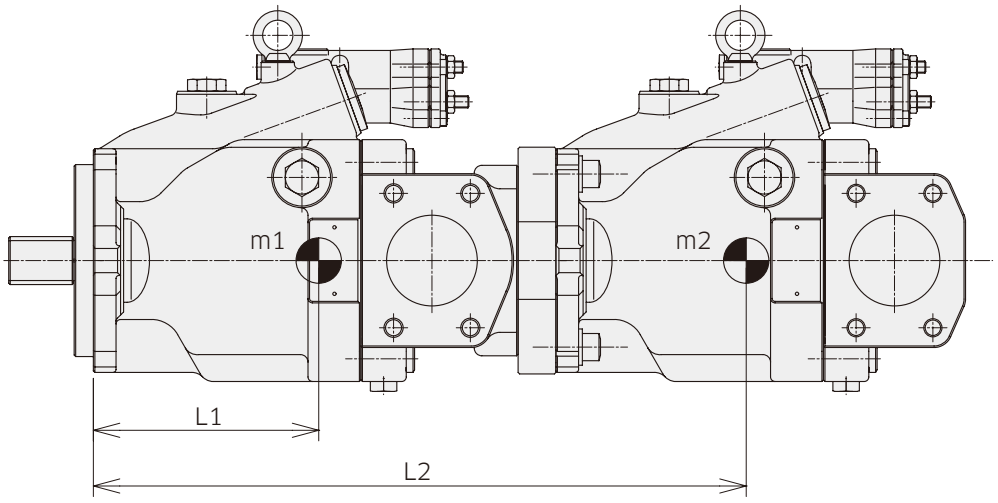
	K3VLS65		K3VLS85		K3VLS105	
	SAE B mount	SAE C mount	SAE C-2 mount	SAE C-4 mount	SAE C-2 mount	SAE C-4 mount
Allowable mass moment (10G) Tm (Nm)	301	463	408	378	419	394

• Calculation Formula for Mass Moment

Tm = (m1 × L1 + m2 × L2 + m3 × L3 + ...) × 1 / 102

m1, m2, m3 ... : Weight of pump [kg]
L1, L2, L3 ... : Center of Gravity [mm]

See next page for values.



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• Values for calculation of mass moment

Through Drive Size	Length, Weight	65 SAE B mount	65 SAE C mount	85	105
Without Through Drive, side ported	Total Length L (mm)	239	239	271	274
	Center of Gravity (from mounting face; mm)	117	113	126	131
	Weight (kg)	25	26	31	37
Without Through Drive, rear ported	Total Length L (mm)	207	207	232	237
	Center of Gravity (from mounting face; mm)	111	108	120	124
	Weight (kg)	24	24	29	35
SAE A	Total Length L (mm)	253	253	281	286
	Center of Gravity (from mounting face; mm)	129	126	137	138
	Weight (kg)	28	29	33	39
SAE B SAE BB	Total Length L (mm)	273	273	301	306
	Center of Gravity (from mounting face; mm)	143	143	150	150
	Weight (kg)	31	31	37	42
SAE C SAE CC	Total Length L (mm)	–	278	306	311
	Center of Gravity (from mounting face; mm)	–	138	149	149
	Weight (kg)	–	32	36	42

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Please fill the table to specify the requirements.
Please contact us for any questions.

K3VLS series Inquiry Form

Kawasaki
Powering your potential

Please tick the box for options.
Options with ★ are under development.

Date: Machine Model:

Application:

Customer Name: Pump Model:

Swash Plate Type Axial Piston Pump

Model Code	1	2	3	4	5	6	7	8		9	10	11	12
	K3VLS		-	1			-		-				

Items	Model Code Pos.	Requirements	Kawasaki feed back
Pump Size	2	65 ☐	
		85 ☐	
		105 ☐	
Series Type Code	4	1 : Standard type	
Through Drive and Porting	5	0 : Without Through Drive, Side ported ☐	
		A : SAE-A Through Drive, Side ported ☐	
		B : SAE-B Through Drive, Side ported ☐	
		BB : SAE-BB Through Drive, Side ported ☐	
		C : SAE-C 2/4 bolt Through Drive, Side ported ☐	
		CC : SAE-CC 2/4 bolt Through Drive, Side ported (for K3VLS105) ☐	
		N : With Through Drive Shaft, Without Coupling, Closed with Steel Cover, Side Ported ☐	
		R : Without Through Drive, Rear Ported ☐	
Direction of rotation	6	R : Clockwise ☐	
		L : Counterclockwise ☐	
Mounting Flange and Shaft	7	B : SAE - B Mount & SAE - B Spline (for K3VLS65) ☐	
		BB : SAE - B Mount & SAE - BB Spline (for K3VLS65) ☐	
		C : SAE - C Mount & SAE - C Spline (for K3VLS65 / 85 / 105) ☐	
		CC : SAE - C Mount & SAE - CC Spline (for K3VLS105) ☐	
Flange Thread Type (Suction/Delivery)	8	S : SAE 4 - bolt Flange, UNC Threaded ☐	
		M : SAE 4 - bolt Flange, Metric Threaded ☐	
Flow Control	9	Load Sense & Pressure Cut - off	
		L0 : with LS Bleed - off Orifice ☐	
		L1 : without LS Bleed - off Orifice ☐	
Differential Pressure Setting Range (For the details see page 14)	10	A : Standard Setting Range (1.0 ～ 3.0 MPa) ☐	
		C : High Setting Range (1.5 ～ 4.0 MPa) ☐	
Additional Control Options	11	Blank : Without Any Additional Control ☐	
		Torque Limit Control	
		A : without Power Shift Control ☐ ★	
		B : with Power Shift Control, Pilot Operated ☐ ★	
		C1 : with Power Shift Control, Electriic Proportional Reducing Valve : 24V ☐ ★	
		C2 : with Power Shift Control, Electriic Proportional Reducing Valve : 12V ☐ ★	
Torque Limit setting (Available only with the attachment of Torque Limiter)	12	** : For Torque Limiting Refer To Horsepower Setting Cordes (Under Preparation)	

Comments (Other requirements)	Operating condition, Duty cycle etc. (Describe your detail)

Request Volume	Request Delivery Date	Note

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http://www.kpm-usa.com

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Precision Machinery Company

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