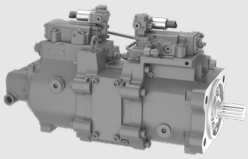
1.6

V92N SERIES

Axial Piston Tandem Variable Pumps

Mainly suitable for use in mobile machinery such as excavators, cranes, rotary drilling rigs, etc

Apply to open circuits		
Size:	120	330
Nominal pressure(bar):	350	380
Peak pressure(bar):	400	420



Contents

Features

- Variable displacement tandem pump for open circuit heavy-duty applications
- High efficiency, long lifespan, and high load capacity
- Advantages such as high load capacity, strong impact resistance, and wear resistance
- Multiple control methods can be combined, with optional angle sensors to achieve flow closed-loop control with higher precision

Technical data

Size		120	330
Displacement(cc/rev)		120×2	330×2
Speed	Rated speed (rpm)*1	2350	1900
	Maximum speed (rpm)	2700	2000
Pressure	Rated pressure (bar)	350	380
	Maximum pressure (bar)	400	420
Maximum torque (N.m) @Vgmax and Δp=380bar		1337 (Δp=350bar)	3991 (Δp=380bar)
Case volume (L)		2.7	10
Suction port pressure (abs bar)		0.8 ～ 2	
Drain pressure (bar)		2	
Max. drain pressure (bar)		5	
Mass (Kg)		127	340
Temperature range (℃)		-20 ～ 95	
Hydraulic fluid viscosity range (mm^2/s)		10 ～ 1000*2 (optimum viscosity range 16 ～ 36)	

1 Ensure the relative pressure at the suction port is ⩾ - 0.1 bar (recommended for normal operation).

2 In case of 200-1000mm^2/s, please allow system to warm up before using machine.

Type introduction

V92N	120	T	V	R	E1	/	G4	J1	K0	N	GM	S
①	②	③	④	⑤	⑥		⑦	⑧	⑨	⑩	⑪	⑫

Product series

①	Double pump, variable swash-plate design, open circuit	V92N

Size

②	Size	120	330

Structure type

			120	330	Code
③	Structure type	Tandem double pump	●	●	T

Seals

		120	330	Code
④	FKM (Viton rubber: DIN ISO 1629)	●	●	V
	NBR (Nitrile rubble :DIN ISO 1629)	○	○	N

Direction rotation

		120	330	Code
⑤	Clockwise	●	●	R

Control type

		120	330	Code
⑥	Electric proportional displacement (positive control)*	●	●	E1
	Hydraulic control negative flow + Electric proportional total power control (positive control)*	●		H1

Remark: "*" mean Deutsch DT04-2P; 2 contact pin(24V)

Mounting flange

		120	330	Code
⑦	4-hole flange	●	●	G4

Input shaft

		120	330	Code
⑧	JIS B 1603 40×14×2.5	●		J1
	JIS B 1603 60×18×3		●	J6

Type introduction

Through drive

		75	85	Code
⑨	None	●	●	N
	With pilot gear pump and pressure relief valve (only for none through drive)	●	●	K0

PTO installation method

				120	330	Code
	No boost, no power take-off			●		N
	Boost, no power take-off				●	H
⑩		Installation method	Spline shaft			
	Without pressurization With power take-off	SAE A J744-82-2	ANSI B92.1 5/8 in 9T 16/32DP	●		A1
			ANSI B92.1 2/3 in 10T 16/32DP	●		A2
			ANSI B92.1 7/8 in 13T 16/32 DP	●		A3
	With pressurization With power take-off	SAE B J744-101-2	ANSI B92.1 7/8 in 13T 16/32DP		●	B1
			ANSI B92.1 1 in 15T 16/32 DP		●	B2

Working port

			120	330	Code
⑪	Inlet and outlet flange connection thread	Port type			
	Metric Thread	BSPP G thread (JIS B2351)	●	●	GM

Standard / special version

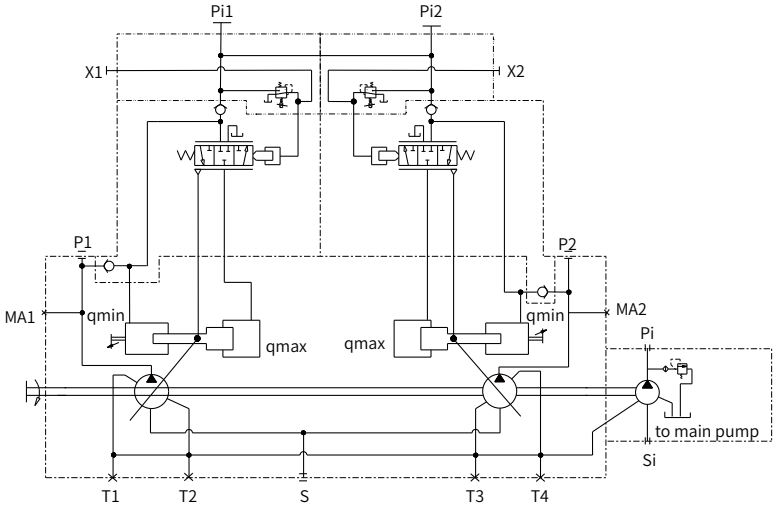
		120	330	Code
⑫	Standard version	●	●	None
	Special version	○	○	S

Remark: ● = Available; ○ = On request

V92N 120 Control principle

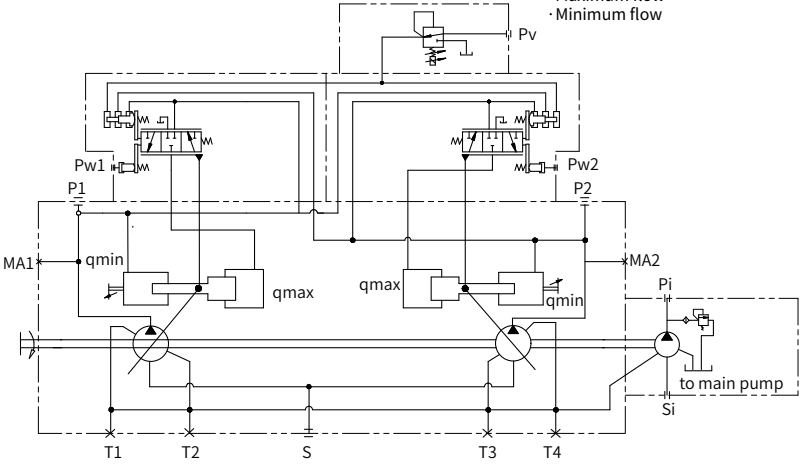
·E1 Electro-proportional displacement control principle

Positive flow electric proportional displacement control. Driven by electromagnet magnetic force, the pump displacement is proportional to the current. The pump is initially located at the minimum displacement Vgmin, and as the current rises, the pump displacement increases. When the oil outlet pressure of the pump is less than 30bar, to change the pump from small displacement to large displacement, an external pilot oil source must be provided, with a minimum pressure of 30bar and a maximum pressure of 50bar.



·H1 Negative flow control schematic

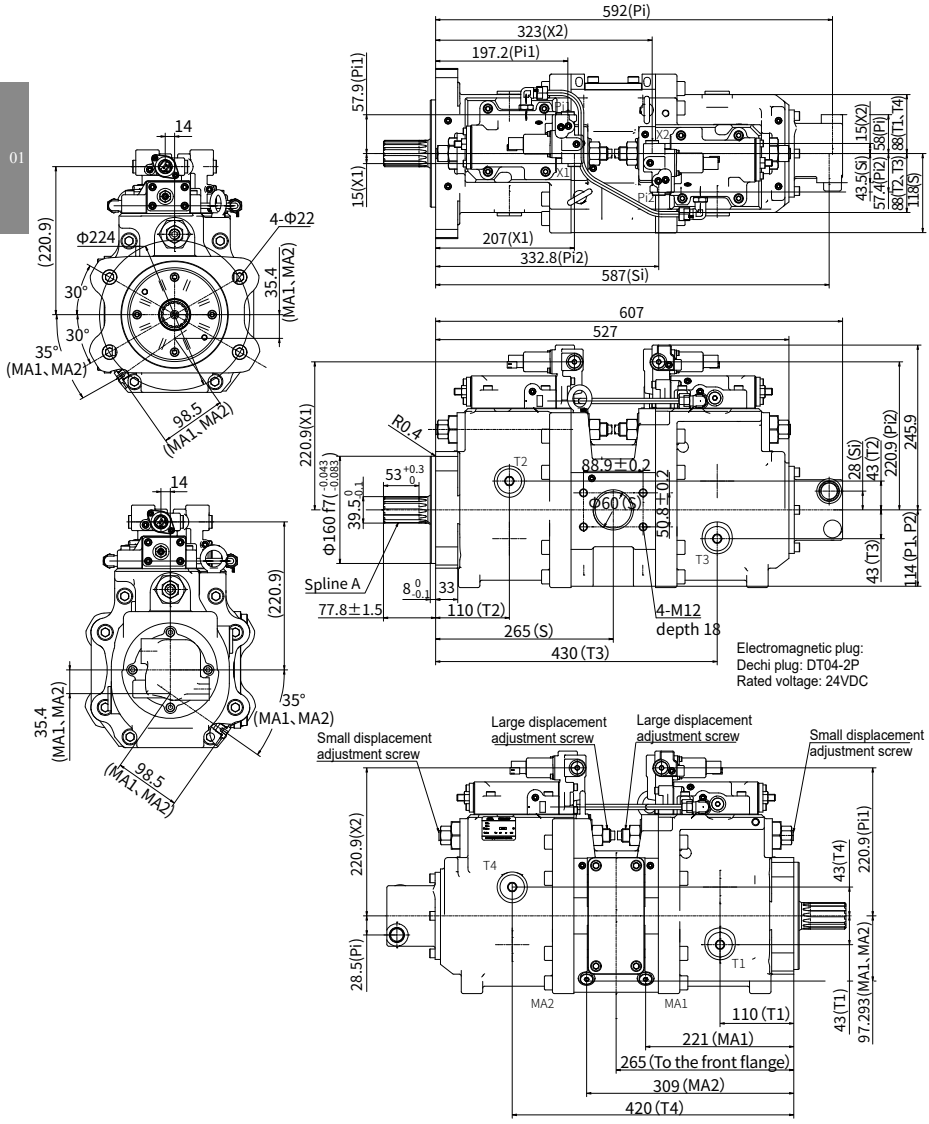
Note:
When ordering, please provide the information as below:
·Working pressure
·Maximum flow
·Minimum flow



01

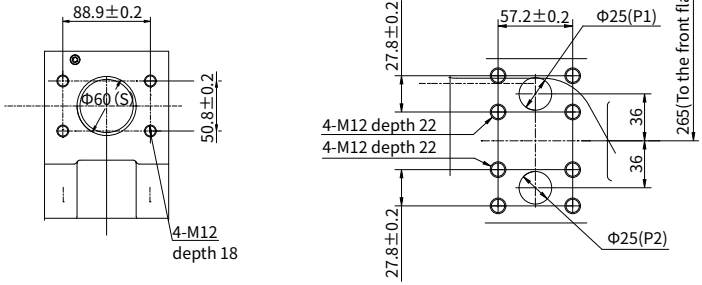
Installation size

V92N 120 Type



Installation size

·V92N 120 Description of oil port



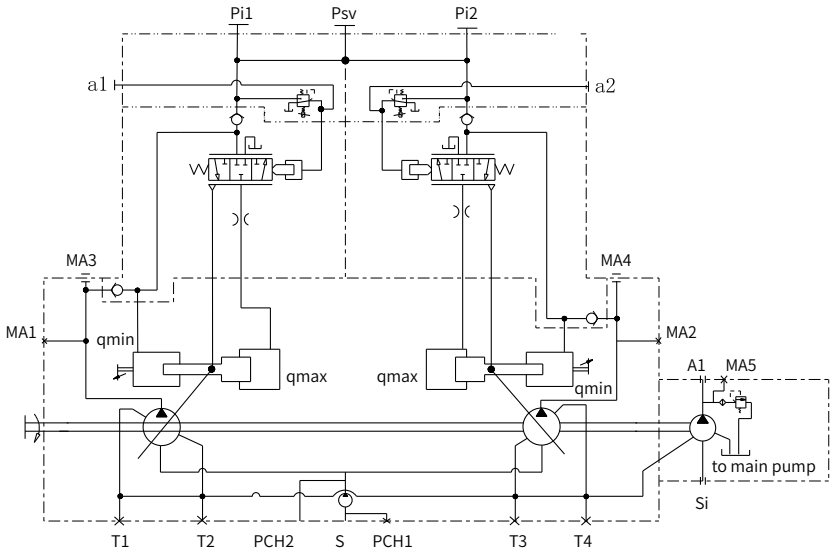
Port Details

	Port Name	Port Description and Size
P1,P2	Output Port	SAE 1" 4-M12×1.5, depth22mm
S	Input Port	SAE 2-1/2" 4-M12×1.75, depth18mm
T1,T2,T3,T4	Drain Port	G 3/4 depth20mm
Pi1,Pi2	Pilot Port	G 1/4 depth12mm
X1,X2	Pressure sensor port	G 1/4 depth12mm
MA1,MA2	Pressure Measureing	G 1/4 depth15mm
Pi	Pilot Pump Output Port	G 1/2 depth19mm
Si	Pilot Pump Input Port	G 3/4 depth20.5mm

V92N 330 Control principle

·E1 Electro-proportional displacement control principle

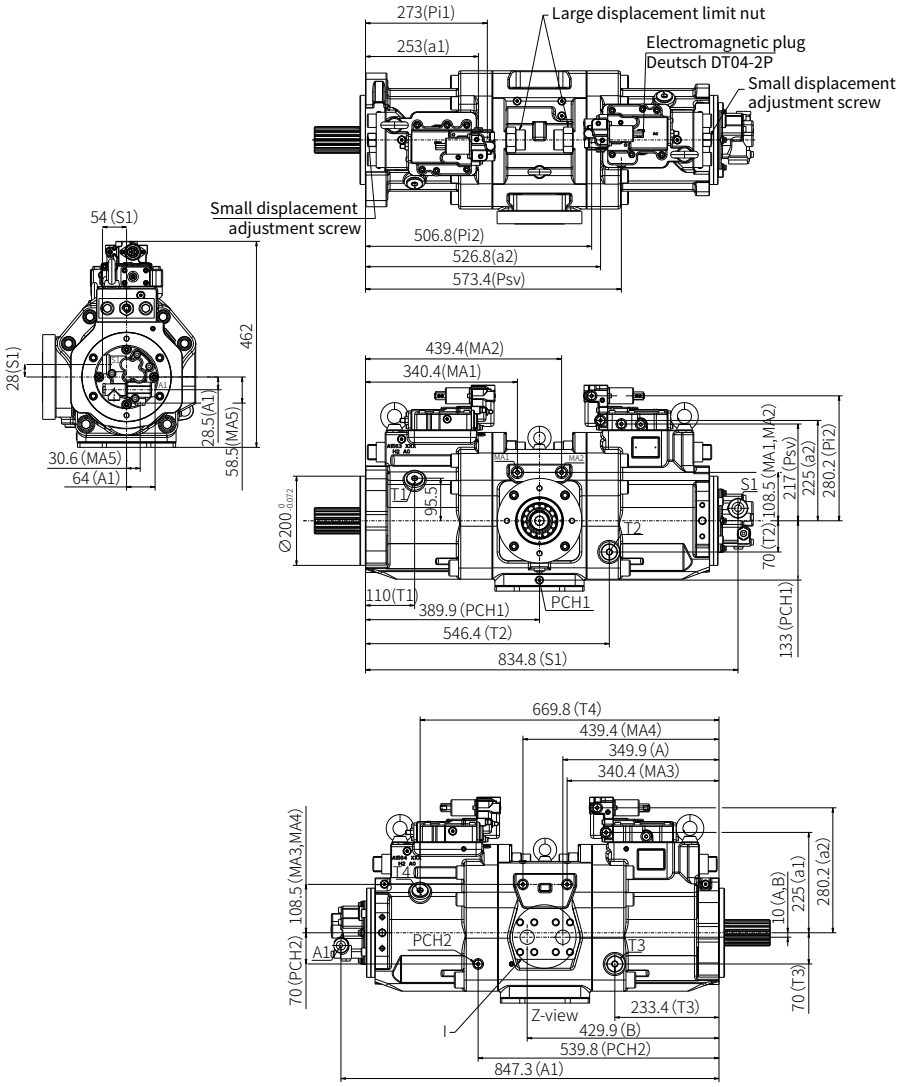
Positive flow electric proportional displacement control. Driven by electromagnet magnetic force, the pump displacement is proportional to the current. The pump is initially located at the minimum displacement Vgmin, and as the current rises, the pump displacement increases. When the oil outlet pressure of the pump is less than 30bar, to change the pump from small displacement to large displacement, an external pilot oil source must be provided, with a minimum pressure of 30bar and a maximum pressure of 50bar.



Note:
When ordering, please provide the information as below:
·Working pressure
·Maximum flow
·Minimum flow

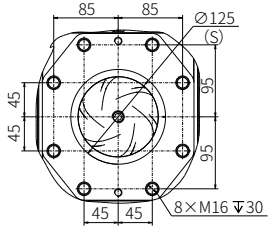
Installation size

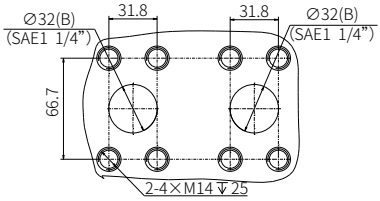
V92N 330 Type



Installation size

·V92N 330 Description of oil port





Port Details

	Port Name	Port Description and Size
A,B	Output Port	SAE 1-1/2" M14×2 25mm
S	Input Port	∅ 125 M16×2 30mm
T1,T2,T3,T4	Return port	G 3/4 20mm
MA1,MA2	Pressure measurement port	G 3/8 13mm
MA3,MA4	Pressure measurement port	G 1/4 13mm
Pi1/Pi2	Pilot port	G 1/4 13mm
a1,a2	pressure measurement port	G 1/4 13mm
Psv	Pilot port	G 1/4 13mm
A1	Outlet of gear pump	G 1/2 19mm
S1	Outlet of gear pump	G 3/4 20.5mm
MA5	Pressure measurement port	G 1/4 13mm
PCH1	Pressure measurement port	G 1/8 11mm
PCH2	Pressure measurement port	G 1/4 13mm

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