



1.6

# V92N SERIES

## Axial Piston Tandem Variable Pumps

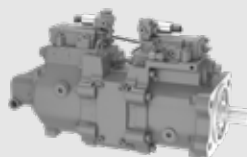
Mainly suitable for use in mobile machinery such as excavators, cranes, rotary drilling rigs, etc

Apply to open circuits

Size: 120

Nominal pressure(bar): 350

Peak pressure(bar): 400



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### 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
Displacement(cc/rev)		120×2
Speed	Rated speed (rpm) <sup>*1</sup>	2350
	Maximum speed (rpm)	2700
Pressure	Rated pressure (bar)	350
	Maximum pressure (bar)	400
Maximum torque (N.m) @Vgmax and Δp=380bar		1337 (Δp=350bar)
Case volume (L)		2.7
Suction port pressure (abs bar)		0.8 ~ 2
Drain pressure (bar)		2
Max. drain pressure (bar)		5
Mass (Kg)		127
Temperature range (°C )		-20 ~ 95
Hydraulic fluid viscosity range (mm <sup>2</sup> /s)		10 ~ 1000 <sup>*2</sup> (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<sup>2</sup>/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
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Size

②	Size	120
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Structure type

③		120	Code
	Structure type	Tandem double pump	● T

Seals

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

Direction rotation

⑤		120	Code
	Clockwise	●	R

Control type

⑥		120	Code
	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

⑦		120	Code
	4-hole flange	●	G4

Input shaft

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

Type introduction

Through drive

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

PTO installation method

⑩			120	Code	
	No boost, no power take-off		●	N	
	Boost, no power take-off			H	
		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	SAE B J744-101-2	ANSI B92.1 7/8 in 13T 16/32DP		B1
	With power take-off		ANSI B92.1 1 in 15T 16/32 DP		B2

Working port

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

Standard / special version

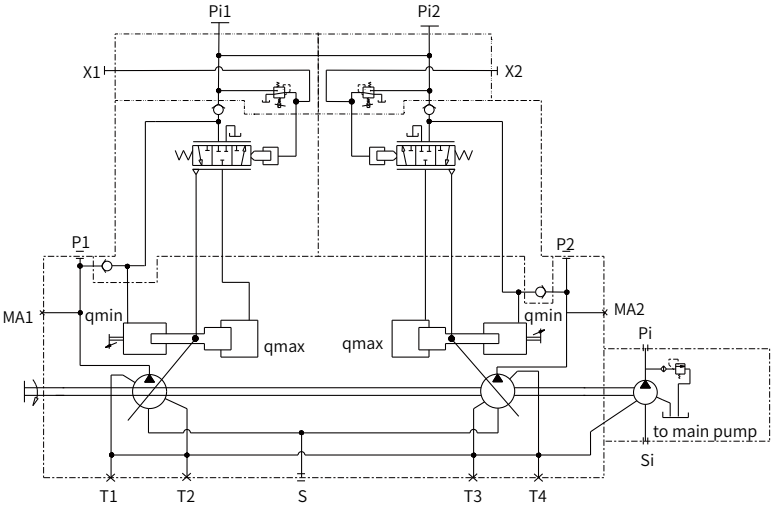
⑫		120	Code
	Standard version	●	None
	Special version	○	S

Remark: ● = Available; ○ = On request

# V92N 120 Control principle

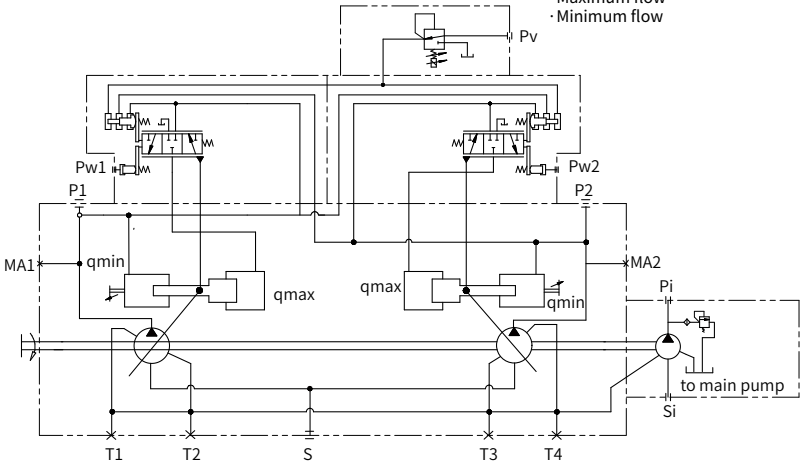
## ·E1 Electro-proportional displacement control principle

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  $V_{gmin}$ , 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

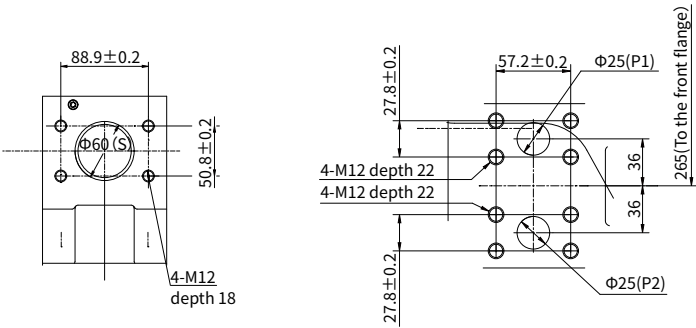


## V92N 120 Type



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 Measuring	G 1/4 depth15mm
Pi	Pilot Pump Output Port	G 1/2 depth19mm
Si	Pilot Pump Input Port	G 3/4 depth20.5mm



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