

New Products **YUKEN** ***Guide***

Pub. JC-10010-1

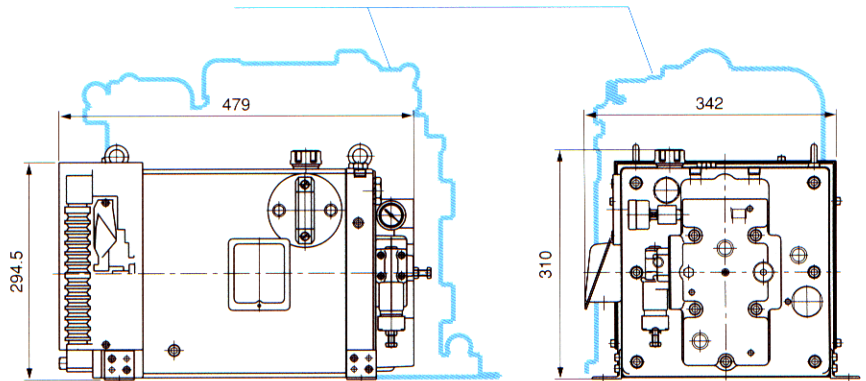
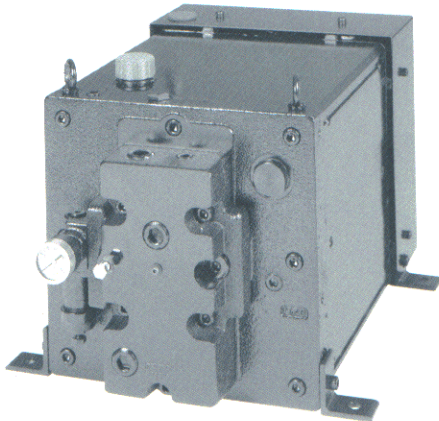


YUKEN

Clean · Compact · High Efficiency



YF PACK packed Low Noise—High Efficient Variable Piston Pumps, Electric Motor, Drain Cooler and Reservoir in its body. It innovated clean and low noise hydraulic power unit.



Specifications

Model Numbers	Geometric Displacement cm ³ /rev	Max. Operating Pres. MPa {kgf/cm ² }	Pressure Adjustment Range MPa {kgf/cm ² }	Reservoir Capacity L	Electric Motor 50Hz : AC200V 60Hz : AC200V/220V
YF10-※-1-0.75-※-※※-10	10.0	16 {163}	B : 1.2~7 {12.2~71.4} C : 2~16 {20.4~163}	10	0.75kW×4P
YF10-※-1-1.5-※-※※-10					1.5kW×4P
YF16-※-1-1.5-※-※※-10	15.8			10	1.5kW×4P
YF16-※-1-2.2-※-※※-10					2.2kW×4P
YF16-※-2U-2.2-※-※※-10				20	2.2kW×4P
YF16-※-2S-2.2-※-※※-10					2.2kW×4P

Model Number Designation

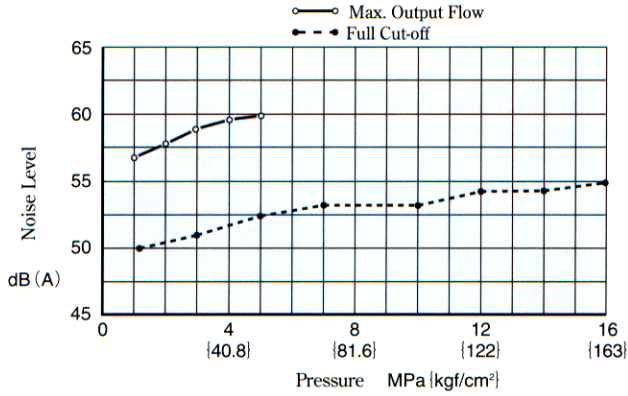
YF	16	-B	-1	-1.5	-V	-1	1	-MLPT	-10	
Series Number	Geometric Displacement cm ³ /rev	Pressure Adjustment Range MPa {kgf/cm ² }	Reservoir Capacity L	Electric Motor	Position	Base Block		Options	Design Number	
						Base Block Size	Number of Stations			
YF: YF PACK	10 : 10.0	B : 1.2~7 {12.2~71.4} C : 2~16 {20.4~163}	1 : 10	0.75 : 0.75kW×4P	H : Horizontal	None : Without Base Block 1 : size 01 5 : size 005	None : Without Base Block 1 : 1 Station 2 : 2 Stations 3 : 3 Stations	Choose the options described below. (Omit if not required.) M : Magnet Filter L : Level Sensor P : Pressure Switch T : Thermo — sensor	10	
				1.5 : 1.5kW×4P	V : Vertical					
	16 : 15.8		2U : 20 ^{★1}	1.5 : 1.5kW×4P	H : Horizontal					
				2.2 : 2.2kW×4P	V : Vertical					
			2S : 20 ^{★2}			H : Horizontal				

★1 : With Upper Reservoir
★2 : With Lateral Reservoir

YUKEN OFFER INNOVATING PRODUCTS MUCH FOR THE COMING GENERATION.

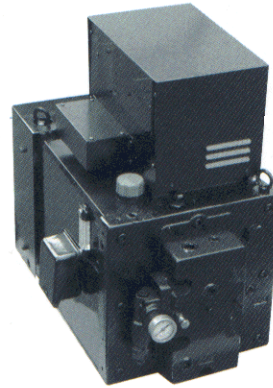
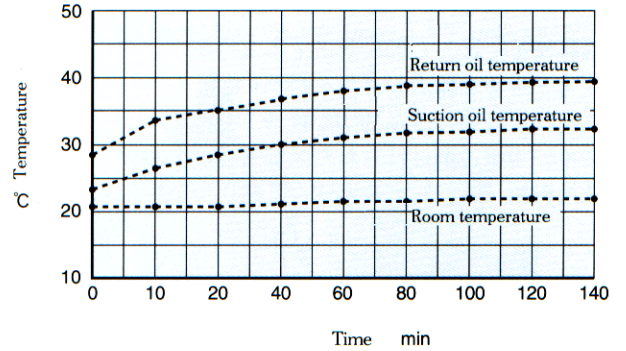
■ Noise Level

- Model Number : YF16-C-1-1.5-10
- One metre horizontally away from YF PACK (average of 5 directions)



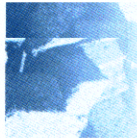
■ Temperature Rise

- Model Number : YF16-B-1-2.2-10
- Frequency : 50Hz
- Full Cut-off Pres. 7MPa[71.4kgf/cm²]



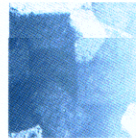
Inverter Drive Type

These save energy consumption and reduce noise level much more than YF PACK. They can contribute to saving the Earth.



Compact & Space-Saving

YF PACK are cubic integrated construction of Piston Pump, Electric Motor, Reservoir etc. Their volume is half compared to YP pack. YF PACK are pipeless concept which has no oil leakage.



Energy-Saving & Low Oil Temperature Rise

compared to YP pack. Thermal radiation is reduced by increasing cooling capacity. Machines, in which YF PACK can be built, are free from heat distortion.



Low Noise & Low Vibration

Noise level is less than 52dB(A).[at 7 MPa, one metre horizontally away from YF PACK]



Available to Water Containing Fluids

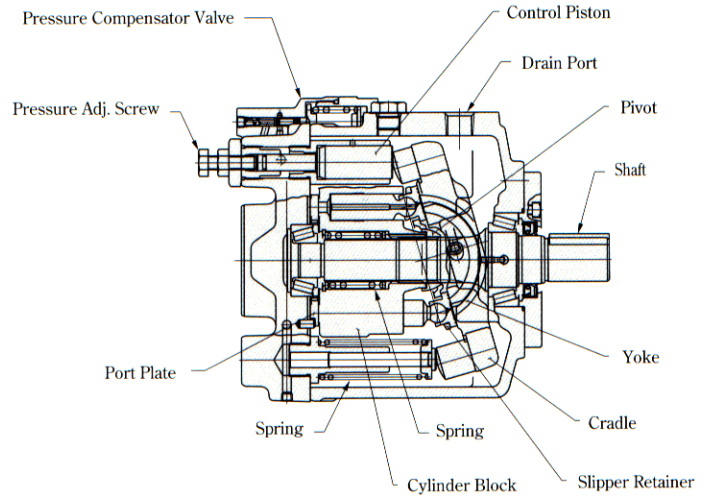
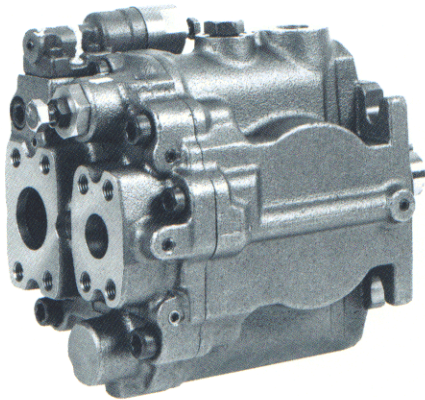
YF PACK are available to both petroleum base oil and water containing fluids. They have various accessories (solenoid operated directional valves, thermo-sensor, pressure switch etc.).

Maximum Pressure 35 MPa

Intermediate Pressure Series Piston Pumps

High-pressure series piston pumps are suitable for high pressure, high efficiency and low-noise developed by Yuken's unique design concept.

- High performance having maximum pressure up to 35 MPa
- Compact construction as a result of seeking simplicity
- They keep high volumetric efficiency at 35 MPa
- Low noise level and high reliability based on well-proved service
- Optimal for industrial machines and mobile



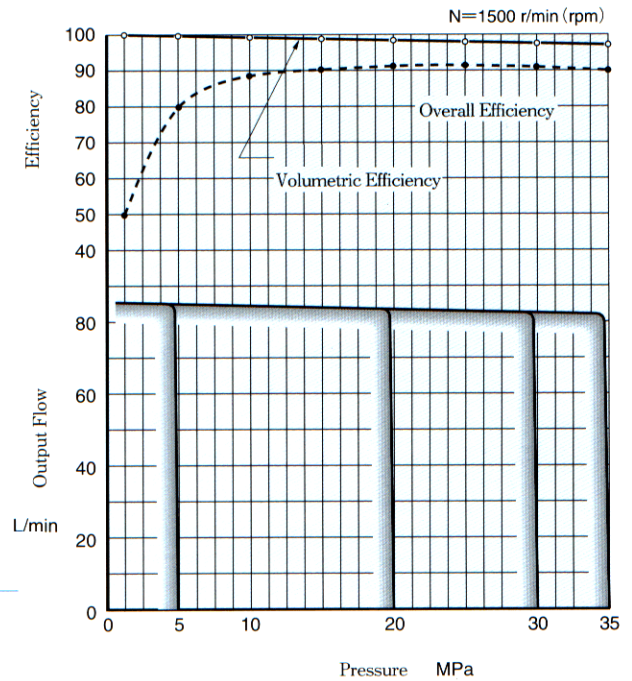
Specifications

Geometric Displacement cm ³ /rev	Operating Pres. MPa {kgf/cm ² }		Mass kg
	Intermittent	Rated	
37.0★	35 {357}	28 {286}	—
56.0			26
71.0★			—
100.0★			—
145.0★			—
180.0			73

★ shows models which have been developing at present.

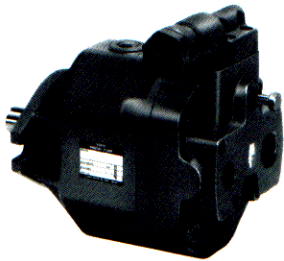
Performance Characteristic Curve

● High Pres. Piston Pumps : Geometric Displacement 56cm³/rev

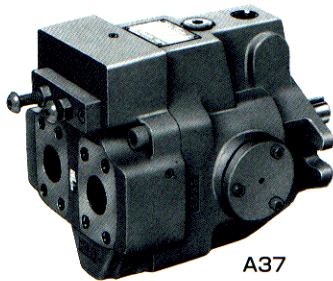


AR • A Series Variable Displacement Piston Pumps

YUKEN'S variable displacement piston pumps are low-noise, high-efficiency swash plate fitted piston pumps. They include various models to meet diversified needs.



AR16



A37

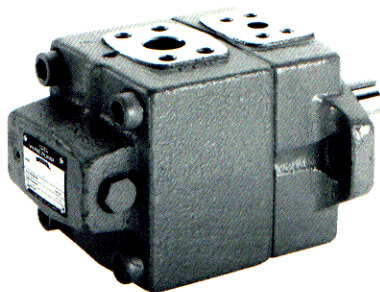
Model	Max. Operating Pressure MPa(kgf/cm ²)	Geometric Displacement cm ³ /rev									
		3	5	10	20	50	100	200	300		
AR Series	16(163)			AR16							
					AR22						
A Series	21(214)		A10								
			A16								
	16(163)			A22							
		21(214)			A37						
					A56						
	28(286)					A70					
						A90					
16(163)							A145				
									A220		

High Pressure 40MPa(408kgf/cm²)

PV11R High Pressure Vane Pumps

High Pressure

The problem with excessive vane and camring wear associated with high pressure vane pumps has been solved through special methods of lubrication and mechanical construction.

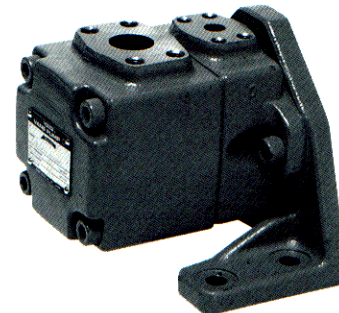


- ModelPV11R10, PV11R20
- Max. Operating Pressure40MPa(408kgf/cm²) Anti-Wear Type Oils
.....25MPa(255kgf/cm²) R&O Type Oils
- Geometric DisplacementPV11R10 : 2.2~12.1cm³/rev
PV11R20 : 15.2~22.1cm³/rev

Low Noise • High Performance

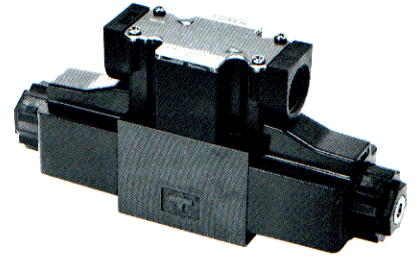
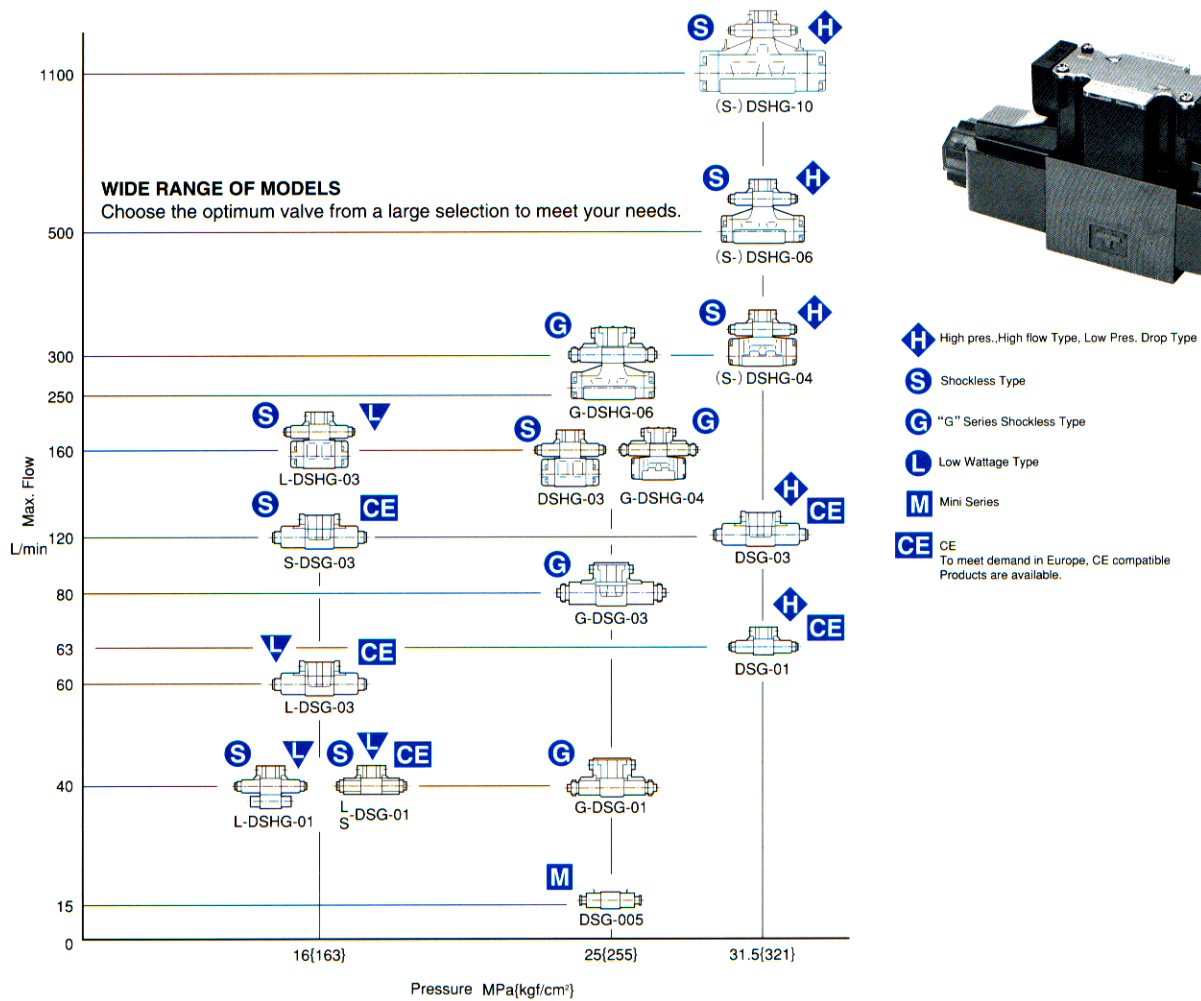
PV2R Series Low Noise Vane Pumps

The pumps have been developed especially for low noise operation. To comply with a wide range of applications for instance the injection moulding machine industry, we provide the wide range of delivery volume[5.8~237cm³/rev for the pumps.



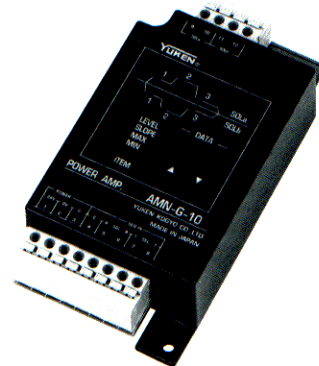
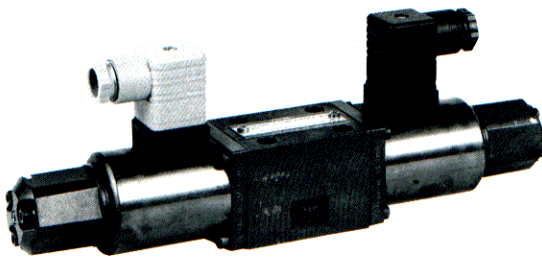
- ModelPV2R1, PV2R3, PV2R4, PV2R12, PV2R13, PV2R23
- Max. Operating Pressure21MPa(214kgf/cm²)
- Geometric DisplacementPV2R1 : 5.8~31/PV2R2 : 41.3~64.7
PV2R3 : 76.4~115.6/PV2R4 : 136~237cm³/rev

Solenoid Operated Directional Valves / Solenoid Controlled Pilot Operated Directional Valves



Shockless Type Proportional Directional and Flow Control Valves / Amplifier

These valves are developed on the basis of the same design concept "G series shockless type directional valves". In addition, they are high-performance type being able to control the maximum flow. The operation and repeatability are improved by combining the new digital amplifier.



Specifications

Shockless Type Proportional Directional and Flow Control Valves

- Max. Flow30L/min (压力降下値 Pres. Drop ΔP : 7MPa |71.4kgf/cm²)
- Max. Operating Pres.25MPa |255kgf/cm²
- Max. T-Line Back Pres.14MPa |143kgf/cm²
- Rated Current1.1A
- Repeatability1%以下 Less than 1%

Amplifier

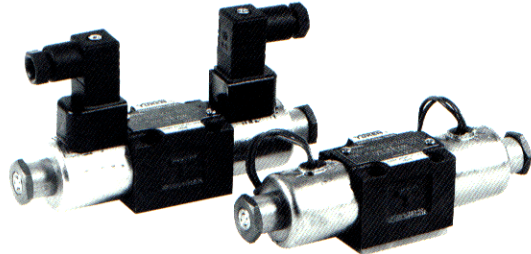
- Max. Output Current1.3A
- Power SupplyDC24V (20~30V)
- Max. Input Power35W
- Preselected Patterns 3 Levels (Sol a, Sol b)
- Slope Setting Range0~99%

DSG-005 Series Solenoid Operated Directional Valves

The maximum flow rate is increased in DSG-005 series. They have three conduit connection types (Lead Wire, Plug-in Connector, Plug-in Connector with Indicator Light) to meet your needs.

■ Specifications

Model Numbers	Max. Flow L/min	Max. Operating Pres. MPa [kgf/cm ²]	Mass kg
DSG-005-3C※-D※-※-40	15	25 [255]	0.6
DSG-005-2B※-D※-※-40			0.5



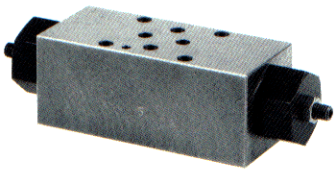
005 Series Modular Valves

These modular valves are optimal to build pipeless and space-saving systems. With a new addition of "MBP", "MRP", "MCP", they consist of a variety of models. The maximum flow rate is increased.

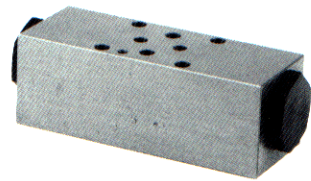
Class	Model Numbers	Graphic symbols
Solenoid Operated Directional Valves DSG-005-※※※-D※-※-40		
Pressure Control Valves	Relief Valves MBP-005-※-20	
	Reducing Valves MRP-005-※-20	
Flow Control Valves	Throttle and Check Valves (for "A-Line", Metre-out) MSA-005-X-20	
	Throttle and Check Valves (for "A-Line", Metre-in) MSA-005-Y-20	
	Throttle and Check Valves (for "B-Line", Metre-out) MSB-005-X-20	
	Throttle and Check Valves (for "B-Line", Metre-in) MSB-005-Y-20	
	Throttle and Check Valves (for "A&B-Lines", Metre-out) MSW-005-X-20	
	Throttle and Check Valves (for "A&B-Lines", Metre-in) MSW-005-Y-20	
Directional Control Valves	Check Valves MCP-005-0-20	
	Pilot Operated Check Valves (for "A-Line") MPA-005-2-20	
	Pilot Operated Check Valves (for "B-Line") MPB-005-2-20	
	Pilot Operated Check Valves (for "A&B-Lines") MPW-005-2-20	
Base Plates & Bolt Kits	Base Plates MMC-005-※-20	
	Bolt Kits MBK-005-※-20	

■ Specifications

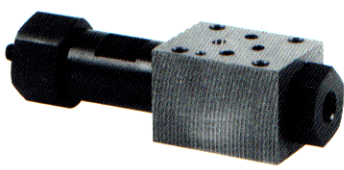
- Max. Flow.....15L/min
- Max. Operating Pres.25MPa [255kgf/cm²]



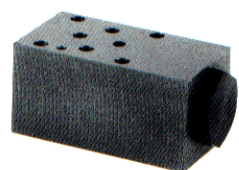
MSW-005



MPW-005



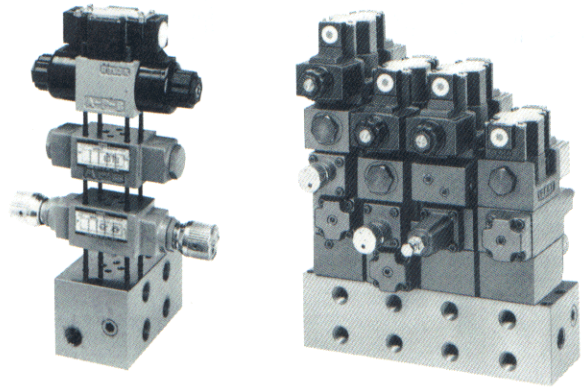
MRP-005



MCP-005

Modular Valves

There is a variety of modular valves from low flow models "005 series" to high flow models "10 series".



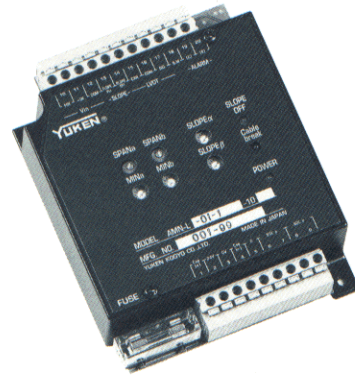
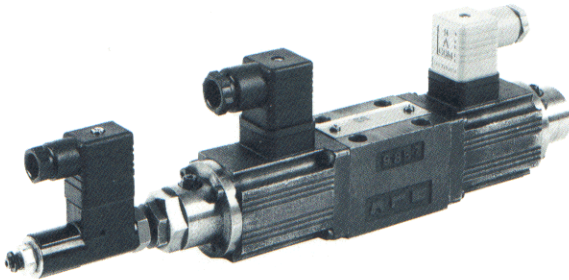
Model	Max. Operating Pressure MPa(kgf/cm ²)	Max. Flow L/min										
		1	2	5	10	20	50	100	200	500	1000	
01 Series Modular Valves	31.5 {321}	[Bar chart showing flow range up to ~35 L/min]										
03 Series Modular Valves	25 {255}	[Bar chart showing flow range up to ~60 L/min]										
06 Series Modular Valves	25 {255}	[Bar chart showing flow range up to ~200 L/min]										
10 Series Modular Valves	25 {255}	[Bar chart showing flow range up to ~1000 L/min]										

★ See "005 series modular valves" on the previous page.

High-Response Type

E series Directional and Flow Control Valves / Amplifier

These are closed-loop type directional and flow control valves. High precision and reliability also achieve in addition to high-response by using the newly compact and powerful solenoids and transformer for spool position.



Specifications

E series Directional and Flow Control Valves

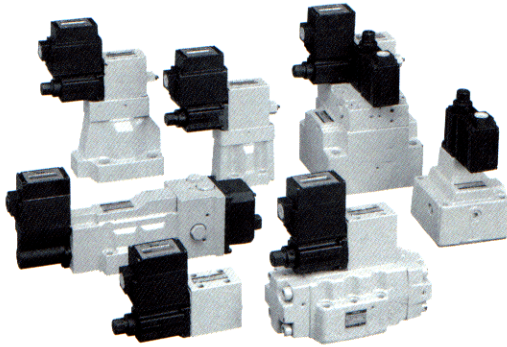
- Model Numbers.....EDFG-01-※※※-3C※-XY-L
- Max. Operating Pres.....31.5MPa {321kgf/cm²}
- Rated Flow.....10, 20, 35L/min
- Max. T-Line Back Pres.....21MPa {214kgf/cm²}
- Rated Current (Max.)2.5A
- Frequency Response...48Hz (-90degree)

Amplifier for E series Directional and Flow Control Valves

- Model Numbers.....AMN-L
- Max. Output Current.....2.5A
- Power Supply.....DC24V (20~30V)
- Max. Input Power.....36W
- Power Input (Max.) ±10V

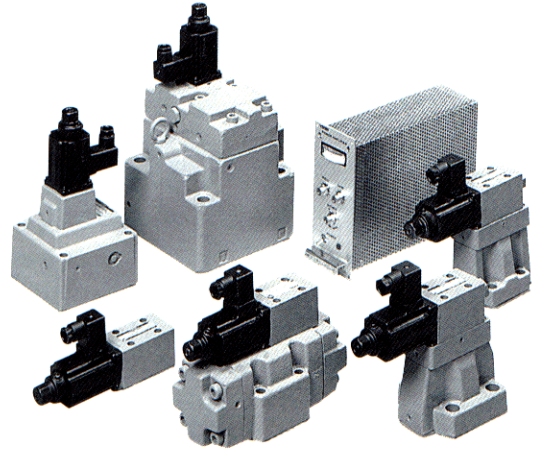
EH Series Proportional Electro-Hydraulic Control Valves

These EH series are compound products of hydraulic equipment using latest electric and sensor technology. We have realized epoch-making easily usable hydraulic equipment with high precision and reliability by unifying amplifier, sensor, digital data indicator which are required for proportional or servo control system into valves and making them compact.



E Series Proportional Electro-Hydraulic Control Valves

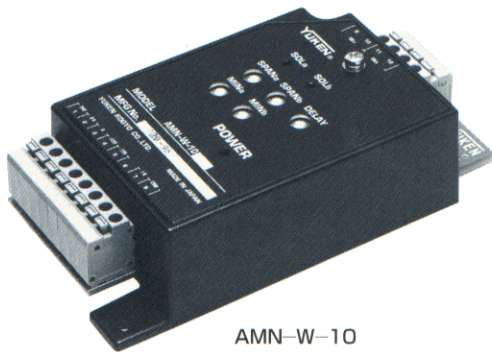
Proportional valve is able to control the pressure (or flow) proportionally in accordance with the electric current from the amplifier, that is, it is possible to cover plural number of pressure-levels (or flow) by the single valve. The valves give you the simplification of system design and shockless control.



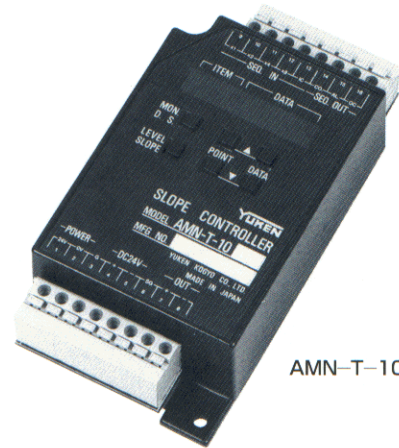
Compact Power Amplifier

Power Amplifier / Slope Controller

Extensive reduction in size and weight are achieved in a compact power amplifier for 10Ω proportional solenoids. Heat generation is restrained much lower because of employment of a new circuit system.



AMN-W-10



AMN-T-10

Specifications

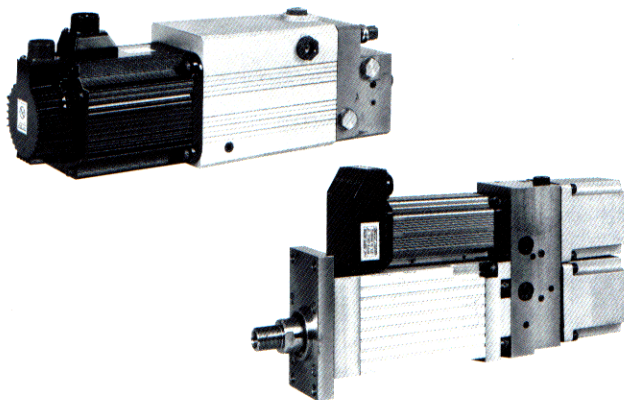
Model Numbers	Applicable to Valves	Supply Electric Power	Power Input (Max.)	Max. Output Current	Gain (Max.)
AMN-D-10	Pres./Flow	DC24V (20~30V)	25W	1A	1A/5V
AMN-W-10	Directional/Flow	DC24V (20~30V)	25W	1.3A	1.3A/5V
AMN-L-01-1-10	Directional & Flow	DC24V (20~30V)	36W	2.5A	Rated/±10V
AMN-L-01-2P-3-10	Directional & Flow	DC24V (20~30V)	36W	2.5A	Rated/±10V
AMN-T-10	Slope Controller	DC24V (20~30V)	3W	—	—
AMN-G-10	Proportional Directional & Flow	DC24V (20~30V)	35W	1.3A	Rated/99%

Intelligent Hybrid Servo Drive Pack

Intelligent Hybrid Servo Drive Packs are achieved energy-savings and compact by unifying AC servo motor, piston pumps, reservoir and cylinder. Pressure, speed and positioning can be controlled for the cylinders. Hydraulic systems can be easily composed only by connecting power supply.

Specifications

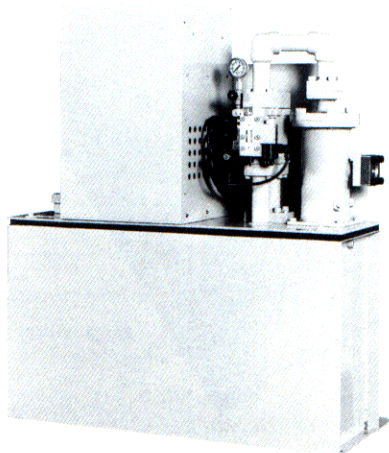
- AC Servo Motor.....1~7.5kW
- Thrust Output.....10~100kN | 1020~10200kgf



Hydraulic Systems for Elevators

Inverter Control Type Hydraulic Systems for Elevators

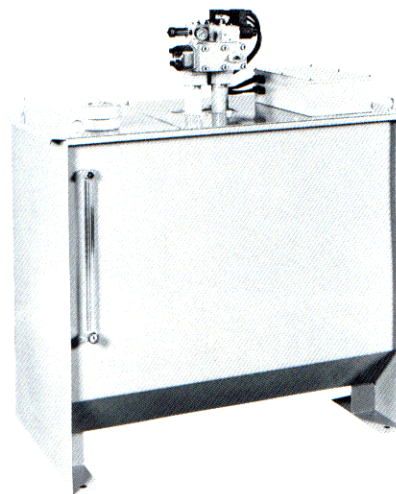
- By using the inverter control method both in ascending and descending operation.
- A comfortable ride can be provided.
- Inverter control can save the energy consumption.



Based on long-accumulated hydraulic technology, YUKEN has developed and offered inverter control and valve control type hydraulic systems for elevators. The inverter controls / proportional valve controls are mainly used for passenger elevators, and the valve controls are used for freight elevators.

Valve Control Type Hydraulic Systems for Elevators.

- The valves control the cage both in ascending and descending operation.
- The hydraulic power units are compact and low-noise by using a submersible type.



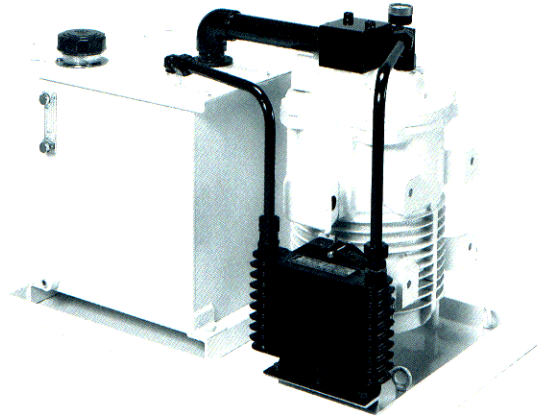
Specifications

	Inverter Control Type	Valve Control Type
Electric Motor	11kW~37kW	11kW~57kW
Max. Pump Delivery	600 L/min	400/800 L/min
Operating Pressure	5MPa (Safety Valve Setting Pres.)	5MPa (Safety Valve Setting Pres.)
Purpose of Use	Passenger (more than 6 people)/Freight use	Freight (Board Capacity over 1 ton)/ Passenger use
Cage Travelling Speed	30, 45, 60m/min	最大 Max. 45m/min
Max. Travel Distance	21m	21m

Hydraulic Power Unit

Pal Pump is used

YP Pack

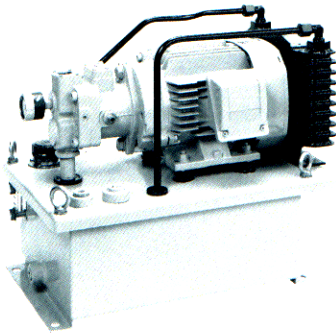


■ Specifications

- Geometric Displacement10/15.8/22.2/36.9cm³/rev
- Reservoir Capacity10/20/30L
- Electric Motor0.75/1.5/2.2/3.7kW

Variable Displacement Vane Pump is used

YM Pack



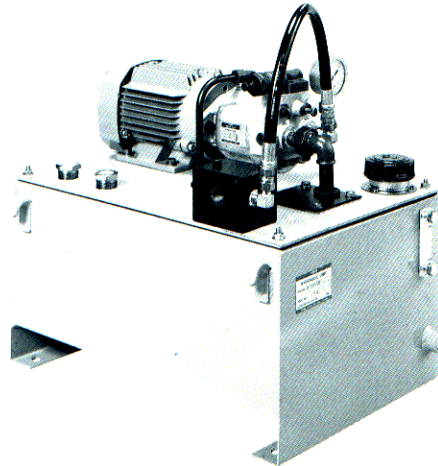
■ Specifications

- Geometric Displacement8.6/15.6 cm³/rev
- Reservoir Capacity10/20 L
- Electric Motor0.75/1.5/2.2 kW

To meet diversified needs in the industry, a variety of standard hydraulic power units have been completed. Optionally, each can be equipped with a modular valve to acquire one of various control circuitries.

A/AR Variable Displacement Piston Pump is used

YA Pack

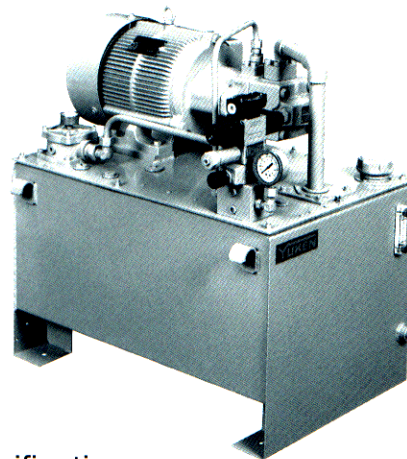


■ Specifications

- Geometric Displacement10/15.8/22.2/37cm³/rev
- Reservoir Capacity20/30/40/60/100/160L
- Electric Motor0.75/1.5/2.2/3.7/5.5/7.5kW

PV11R Series High Pres. Vane Pump is used

YHV Pack



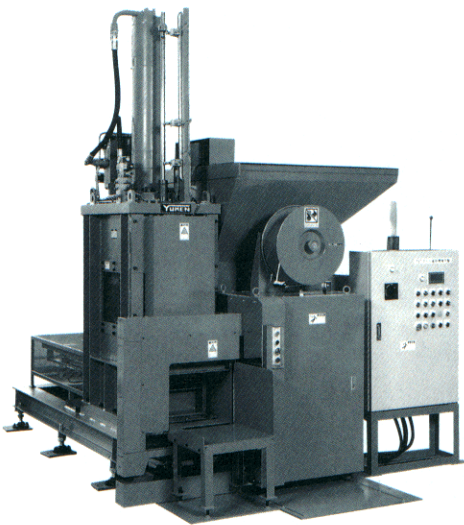
■ Specifications

- Geometric Displacement ...4.5/6.8/9.7/12.1/15.2cm³/rev
- Reservoir Capacity60/100/160/250 L
- Electric Motor5.5/7.5/11/15 kW

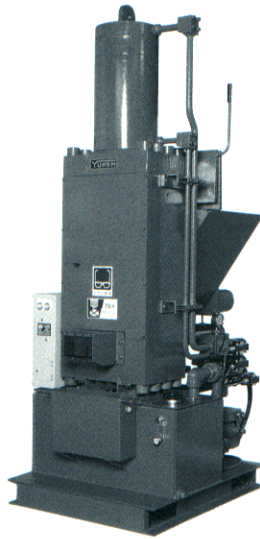
Environmental Products

Utilizing its own long-accumulated hydraulic technology, YUKEN KOGYO designs and manufactures hydraulics applied products for environmental preservation and recycling.

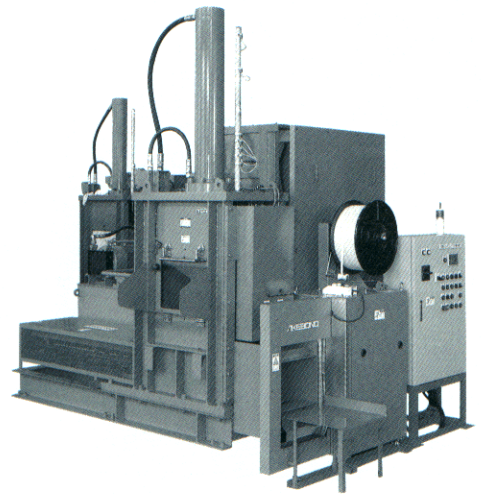
PET Bottle Compacting Press



Chip Compacting Press



Multi Compactor



YUKEN KOGYO CO., LTD.

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