

DELIVERING RELIABILITY



From **Japan** to the world



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TOHATSU Corporation

We, Tohatsu Corporation are leading manufacturer of "Portable Fire Fighting Pumps" and have large market share in Japan where is one of really advanced, innovative & competitive fire protection markets in the world.

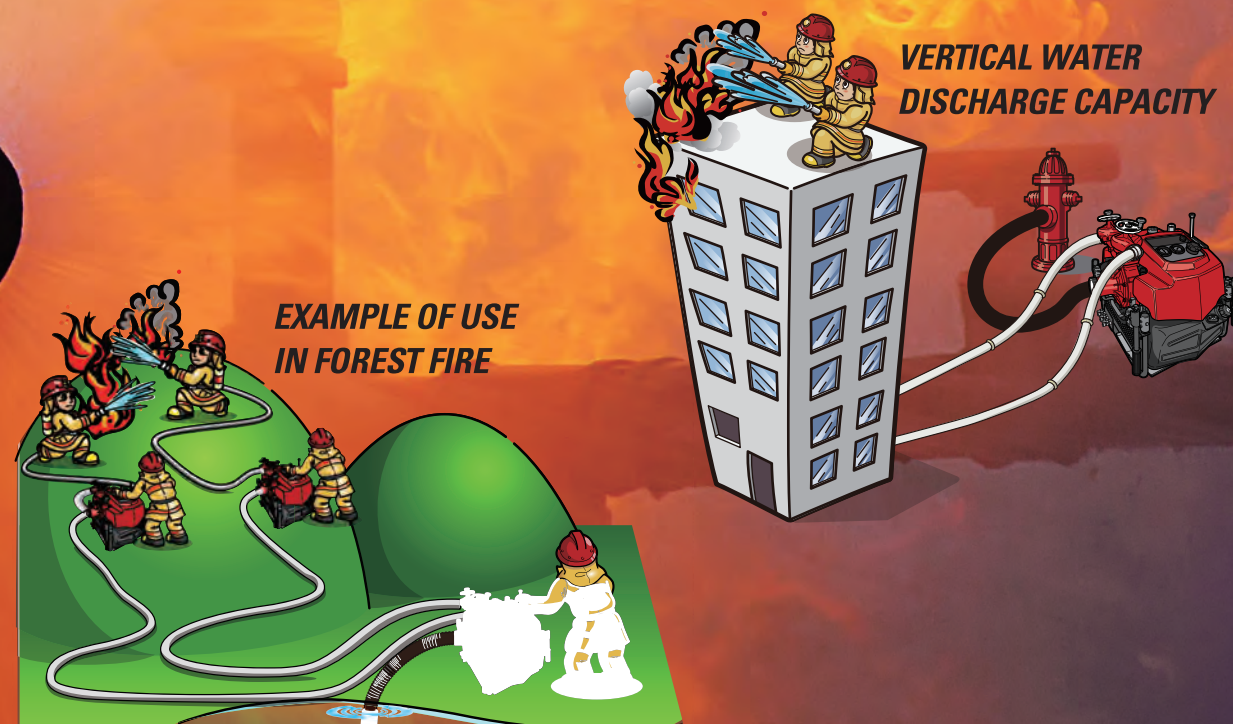
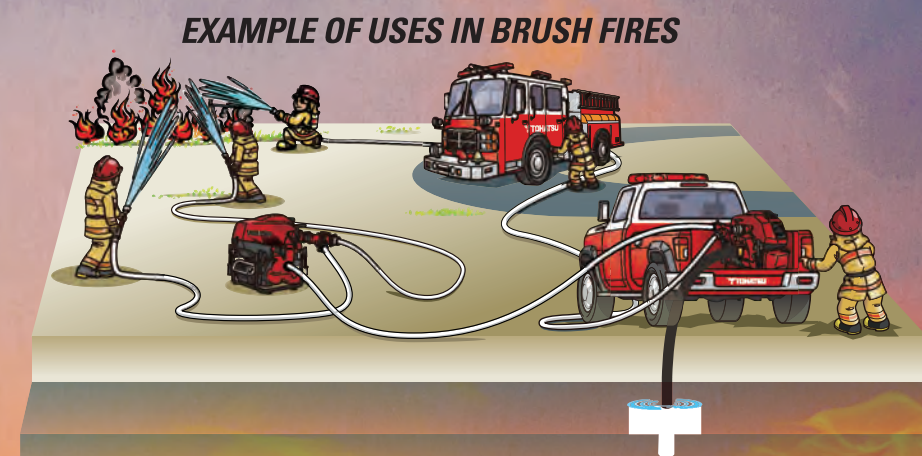
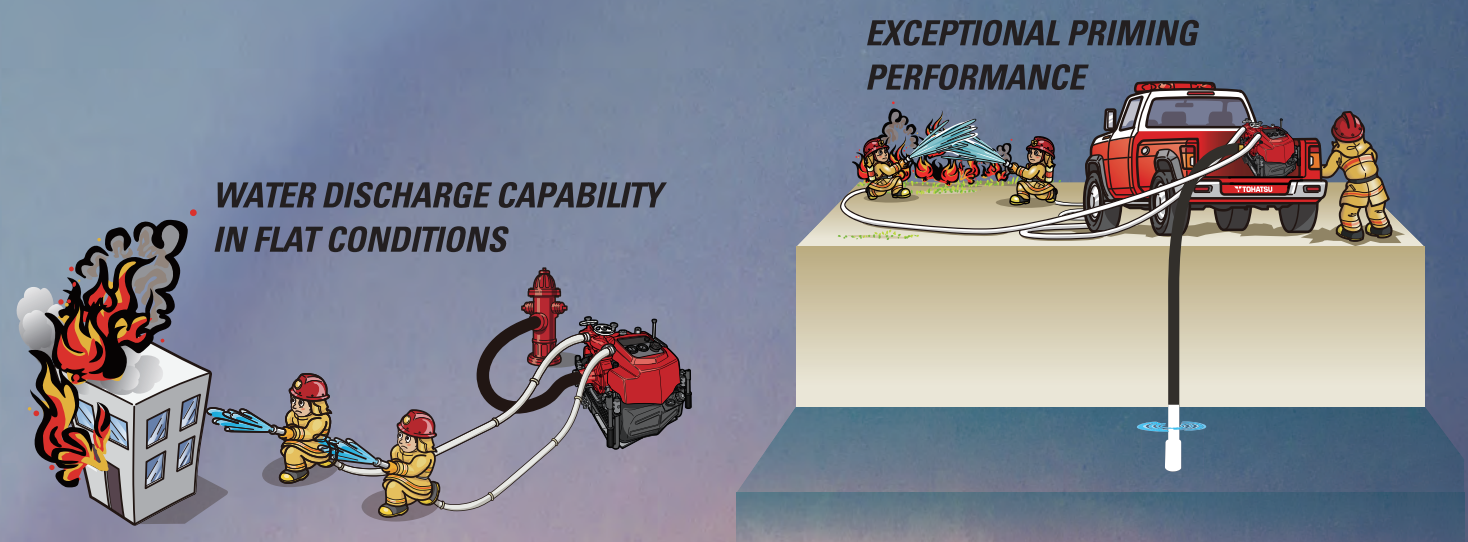
We are the manufacturer of nation's first "Portable Fire Fighting Pumps" in Japan and it was back in 1949.

In the several decades until today, we have been supporting & working very closely for Japanese Professional Fire Services & Volunteer fire departments and our "Portable Fire Fighting Pumps" has been improving & refining in order to meet the high standard and strict quality demands of the authorities.

Our products clearly meet a requirement of your fire authorities which is 1) very light weight, 2) outstanding portability, 3) mountability & removability on fire truck, 4) water relay operation with a number of our "Portable Fire Fighting Pumps", 5) usability with water tankers, pumpers & fire hydrant in town (hooking up on them to take or transfer water for fire-fighting).

We are eager to make a contribution for your fire authorities and try to provide our products to worldwide.

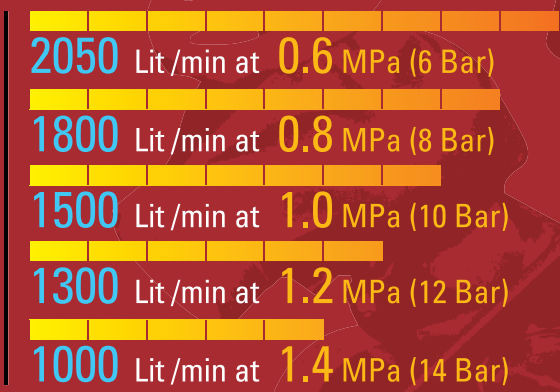
What is "Portable Fire Fighting Pump"?



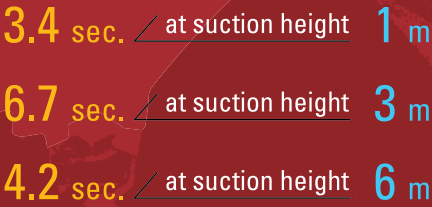
Best Balance of Performance & Weight

VE1500-W

Performance at suction height 3m



Priming performance



- > 1,500L@10Bar/1.0MPa.
- > High volume of pumping pressure (17Bar/1.7MPa)
- > Outstanding quickness of priming speed with Rotary Vane Vacuum Pump.
- > The lightest model in its class.
- > Smooth engine start with Electronic Fuel Injection system.



The lightest model in its class



The best suction performance in the industry (9m/30ft)

Specification		VE1500-W	
Engine	Type	2-Cycle	
	Number of Cylinder	2 Cylinder	
	Cooling System	Suction Water Cooled	
	Bore x Stroke	81 x 78 mm (3.19 x 3.07 inch)	
	Piston displacement	804cc (49.0 cu in)	
	Output	44kW (60PS)	
	Fuel Type	Unleaded Gasoline (Min. 87 Octane)	
	Fuel Tank Capacity	24 Lit (6.34 gal)	
	Fuel Consumption	22 Lit / Hr (5.81 gal / Hr)	
	Fuel System	Electronic Fuel Injection	
Suction	Oil Tank Capacity	1.6 Lit (0.42 gal)	
	Starting	Electric and Manual	
	Suction System	4 Blade Rotary-vane vacuum pump (Oilless-type)	
Pump	Priming System	Semi-Auto Priming	
	Pump Type	Single Suction, Single Stage centrifugal pump	
	Suction Thread and Dia.	Suction Thread and Dia.	JIS 3-1/2" (90mm)
			BSP 4" (100mm)
	Discharge Thread and Dia.	Discharge Thread and Dia.	JIS 2-1/2" (65mm)
			BSP 2-1/2" (65mm)
	Discharge Number	Twin	
Weight	Discharge Valve	Flat	
	Dry Weight	104 kg (229 lbs)	
	Wet Weight	124 kg (273 lbs)	
Dimension(mm)	Overall Length x Width x Height	748 x 732 x 827	

NOTE JIS : Japanese Industrial Standard Thread BSP : British Standard Pipe Thread Wet Weight : Ready for Operation

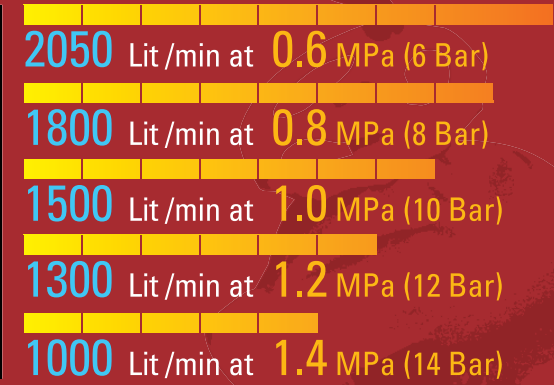


Video Playback
Please check "The performance of VE1500-W"

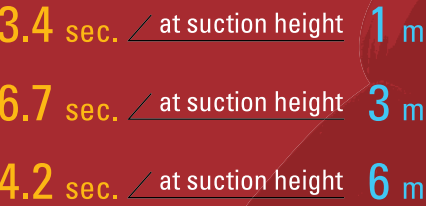
Built for Fire Engine and Fire Boat

VE1500A-Ti

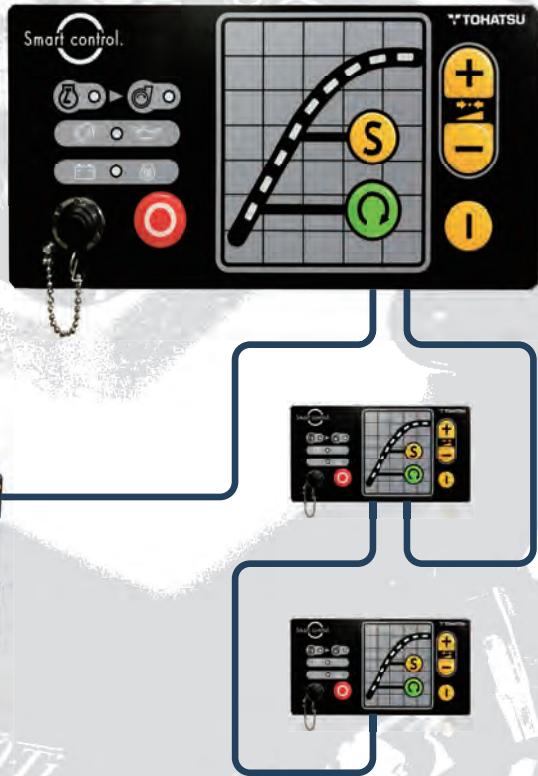
Performance at suction height 3m



Priming performance



- > Exclusive design for fire engine & fire boat.
- > Drive-By-Wire system for operating with remote control panels.
- > Easy installation, just connected by wire harness from the pump and panels.
- > Light weight & compact design to make a room in fire engine & fire boat.
- > Automatic priming system.



• It can be installed up to 3 locations.



The lightest model in its class



The best suction performance in the industry (9m/30ft)

Specification		VE1500A-Ti
Engine	Type	2-Cycle
	Number of Cylinder	2 Cylinder
	Cooling System	Suction Water Cooled
	Bore x Stroke	81 x 78 mm (3.19 x 3.07 inch)
	Piston displacement	804cc (49.0 cu in)
	Output	44kW (60PS)
	Fuel Type	Unleaded Gasoline (Min. 87 Octane)
	Fuel Tank Capacity	24 Lit (6.34 gal)
	Fuel Consumption	22 Lit / Hr (5.81 gal / Hr)
	Fuel System	Electronic Fuel Injection
Suction	Oil Tank Capacity	1.6 Lit (0.42 gal)
	Starting	Electric starter and recoil
	Suction System	4 Blade Rotary-vane vacuum pump (Oilless-type)
Pump	Priming System	Auto Priming
	Pump Type	Single Suction, Single Stage centrifugal pump
	Suction Thread and Dia.	BSP 4" (100mm)
	Discharge Thread and Dia.	BSP 2-1/2" (65mm)
	Discharge Number	Twin
Weight	Discharge Valve	Flat
	Dry Weight	110 kg (243 lbs)
Dimension(mm)	Wet Weight	130 kg (287 lbs)
	Overall Length x Width x Height	748 x 732 x 827
	Number of Panel (Maximum)	3 Sided
Remote Control Panel	Length of cable for panel	3m for main wire harness, 5m/15m for assist wire harness

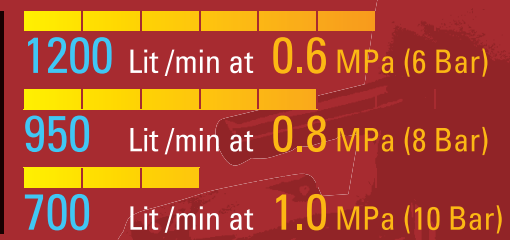
NOTE JIS : Japanese Industrial Standard Thread BSP : British Standard Pipe Thread Wet Weight : Ready for Operation

Unique, like no other for relay pumping

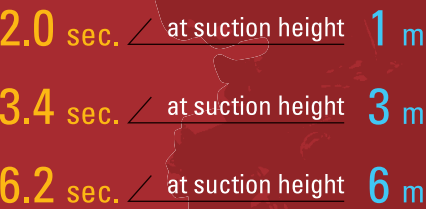
VF63AS-R

4 stroke
The first world automatic relay pump.

Performance at suction height 3m



Priming performance



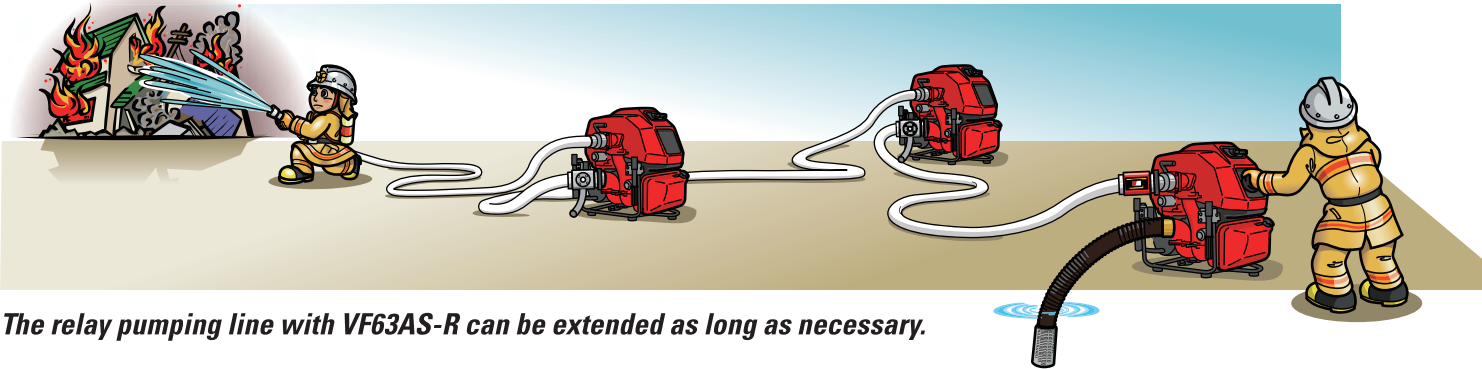
**-KEY COMPONENT-
PRESSURE SENSOR**

This small device controls suction & discharge pressure of VF63AS-R, the relay pump.
The pressure sensor starts the engine when the suction pressure becomes 0.1MPa (1Bar) and discharges the water by itself.
Further the pressure sensor stops the engine when the suction pressure becomes 0.05MPa (0.5Bar) by itself which means no operator is required at the relay pump.



Video Playback
Please check "the method of the relay pumping operation"

Example of use in automatic relay operation (No operator is required at the relay pumps).



The relay pumping line with VF63AS-R can be extended as long as necessary.

Specification		VF63AS-R	
Engine	Type	4-Cycle	
	Number of Cylinder	3 Cylinder	
	Cooling System	Suction Water Cooled	
	Bore x Stroke	61 x 60 mm (2.4 x 2.36 inch)	
	Piston displacement	526 cc (32.09 cu in)	
	Output	22.1 kW (30 PS)	
	Fuel Type	Unleaded Gasoline (Min. 87 Octane)	
	Fuel Tank Capacity	10 Lit (2.64 gal)	
	Fuel Consumption	8.5 Lit/Hr (2.25 gal/Hr)	
	Fuel System	Electronic Fuel Injection	
Suction	Oil Tank Capacity	2 Lit (0.53 gal)	
	Starting	Electric and Manual	
	Suction System	4 Blade Rotary-vane vacuum pump (Oilless-type)	
Pump	Priming System	Auto Priming	
	Pump Type	Single Suction, Single Stage centrifugal pump	
	Suction Thread and Dia.	Suction Thread and Dia.	JIS 3" (75mm)
			BSP 4" (100mm)
	Discharge Thread and Dia.	Discharge Thread and Dia.	JIS 2-1/2" (65mm)
			BSP 2-1/2" (65mm)
Weight	Discharge Number	Twin	
	Discharge Valve	Ball	
	Dry Weight	102kg (225 lbs)	
Dimension(mm)	Wet Weight	112kg (247 lbs)	
	Overall Length x Width x Height	670 x 790 x 740	

NOTE JIS : Japanese Industrial Standard Thread BSP : British Standard Pipe Thread Wet Weight : Ready for Operation

Small & Compact,

with unmatched pump performance

V20FS

Performance at suction height 3m

525 Lit/min at 0.6 MPa (6 Bar)

250 Lit/min at 0.8 MPa (8 Bar)

Priming performance

3.7 sec.

at suction height 1 m

7.0 sec.

at suction height 3 m

15.4 sec.

at suction height 6 m



Suction cap for BSP model: Optional parts.
International Model

- > 180 degree swinging single outlet (90 degree for V20FS).
- > Engine overheat protection sensor for VC72AS/VC52AS.
- > Robust and easy maintenance

VC72AS / VC52AS

Performance at suction height 3m

1550 Lit/min at 0.6 MPa (6 Bar)

1300 Lit/min at 0.8 MPa (8 Bar)

950 Lit/min at 1.0 MPa (10 Bar)

Performance at suction height 3m

1250 Lit/min at 0.6 MPa (6 Bar)

1000 Lit/min at 0.8 MPa (8 Bar)

600 Lit/min at 1.0 MPa (10 Bar)

Priming performance

2.3 sec.

at suction height 1 m

4.5 sec.

at suction height 3 m

9.2 sec.

at suction height 6 m



VC72AS

VC52AS

Light weight

47kg

The lightest model in the industry (V20FS)

Suction height

9m

The best suction performance in the industry (9m/30ft)

Specification		VC72AS	VC52AS	V20FS
Engine	Type	2-Cycle		
	Number of Cylinder	2 Cylinder		1 Cylinder
	Cooling System	Suction Water Cooled		Air Cooled
	Bore x Stroke	76 x 68 mm (2.99 x 2.68 inch)		66 x 58 mm (2.6 x 2.28 inch)
	Piston displacement	617cc (37.6 cu in)		198 cc (12.0 cu in)
	Output	30 kW (40.8 PS)		8.6 kW (11.7 PS)
	Fuel Type	Unleaded Gasoline (Min. 87 Octane)		
	Fuel Tank Capacity	18 Lit (4.76 gal)		5.95 Lit (1.57 gal)
	Fuel Consumption	13 Lit / Hr (3.43 gal / Hr)	9 Lit / Hr (2.38 gal / Hr)	0.5 Lit (0.13 gal)
	Fuel System	Single Carburetor with Auto Choke		
	Oil Tank Capacity	1.6 Lit (0.42 gal)		0.5 Lit (0.13 gal) for V20ES ONLY
	Starting	Electric and Manual		Electric and Manual
Suction	Suction System	4 Blade Rotary Vane Vacuum Pump (oilless-type)		
	Priming System	Semi-Auto Priming		
Pump	Pump Type	Single Suction, Single Stage centrifugal pump		
	Suction Thread and Dia.	JIS 3" (75mm)		JIS 2-1/2" (65mm)
		BSP 4" (100mm)		BSP 2-1/2" (65mm)
	Discharge Thread and Dia.	JIS 2-1/2" (65mm)		JIS 2-1/2" (65mm)
		BSP 2-1/2" (65mm)		BSP 2-1/2" (65mm)
	Discharge Number	Single		
Weight	Discharge Valve	Flat		Ball
	Dry Weight	85kg (187.39 lbs)		47kg (101 lbs)
	Wet Weight	101kg (222.66 lbs)		52kg (116 lbs)
Dimension(mm)	Overall Length x Width x Height	700 x 620 x 730		560 x 475 x 537

NOTE JIS : Japanese Industrial Standard Thread BSP : British Standard Pipe Thread Wet Weight : Ready for Operation

4 Stroke

VF53AS

Performance at suction height 3m

1200 Lit/min at **0.6** MPa (6 Bar)
950 Lit/min at **0.8** MPa (8 Bar)
700 Lit/min at **1.0** MPa (10 Bar)

Priming performance

2.0 sec. / at suction height **1** m
3.4 sec. / at suction height **3** m
6.2 sec. / at suction height **6** m

VF21BS

Performance at suction height 3m

500 Lit/min at **0.6** MPa (6 Bar)
250 Lit/min at **0.8** MPa (8 Bar)

Priming performance

3.7 sec. / at suction height **1** m
7.0 sec. / at suction height **3** m
15.4 sec. / at suction height **6** m

- > **4 stroke Electronic Fuel Injection.**
- > **Auto-priming system with Rotary Vane Vacuum Pump.**
- > **90 degree swinging twin outlets.**



Comparison of sound with VC82ASE

		VC82ASE	VF53AS
Sound Level (dBA)	W.O.T	98	95
Lower noise than VC82ASE	Idle	77	66

Sound LEVELS (dBA)

150	Airplane Takeoff
120	Thunderstorm
100	Motorcycle
90	Inside of Car
80	Vacuum Cleaner
70	City Traffic
60	Normal Conversation
50	Refrigerator
40	Library
30	Whisper



- > **TOHATSU's smallest 4-stroke fire pump**
- > **Easy to handle with its simplicity, portability & straight forward usage**
- > **Designed for easy & smooth operation**

Comparison of sound with V20D2S

		V20FS	VF21BS
Sound Level (dBA)	W.O.T	100	93
Lower noise than V20D2S	Idle	67	62

62 dBA

62 Idle
VF21BS 93
V20D2S W.O.T

The quietest in TOHATSU fire pumps (VF21BS)

Battery-less

The only battery-less fire pump in the industry (VF53AS)

Specification		VF53AS	VF21BS
Engine	Type	4 Cycle	
	Number of Cylinder	3 Cylinder	2 Cylinder
	Cooling System	Suction Water Cooled	
	Bore x Stroke	61 x 60 mm (2.4 x 2.36 inch)	55 x 44 mm (2.17 x 1.73 inch)
	Piston displacement	526cc (32.1 cu in)	209cc (12.7 cu in)
	Output	22 kW (30 PS)	7.3 kW (10 PS)
	Fuel Type	Unleaded Gasoline (Min. 87 Octane)	
	Fuel Tank Capacity	10 Lit (2.64 gal)	4.3 Lit (1.14 gal)
	Fuel Consumption	9.5 Lit / Hr (2.51 gal / Hr)	3.9 Lit / Hr (1.03 gal / Hr)
	Fuel System	Electronic Fuel Injection	Single Carburetor
Suction	Oil Tank Capacity	2 Lit (0.53 gal)	1 Lit (0.26 gal)
	Starting	Electric and Manual	
	Suction System	4 Blade Rotary Vane Vacuum Pump (oilless-type)	
Pump	Priming System	Auto Priming	Semi-Auto Priming
	Pump Type	Single Suction, Single Stage centrifugal pump	
	Suction Thread and Dia.	JIS 3" (75mm)	JIS 2-1/2" (65mm)
		BSP 4" (100mm)	BSP 2-1/2" (65mm)
	Discharge Thread and Dia.	JIS 2-1/2" (65mm)	JIS 2-1/2" (65mm)
		BSP 2-1/2" (65mm)	BSP 2-1/2" (65mm)
Weight	Discharge Number	Twin	Single
	Discharge Valve	Ball or Flat	Ball
Dimension(mm)	Dry Weight	101kg (222.66 lbs)	52kg (114.64 lbs)
	Wet Weight	111kg (244.71 lbs)	57kg (125.66 lbs)
Dimension(mm)	Overall Length x Width x Height	690 x 790 x 740	480 x 590 x 560

NOTE JIS : Japanese Industrial Standard Thread BSP : British Standard Pipe Thread Wet Weight : Ready for Operation

OPTIONAL ACCESSORIES

Tohatsu Floating strainer

All-purpose & versatile suction device for emergency & tough condition.



Specification	
Suction volume	1,500ℓ/min
Adapter	JIS or BSP
Outlet diameter	75mm (3 inch)
Measurement	670 x 460 x 170mm
Weight	8.3kg
Suction minimum depth	Depth 2cm
Part number	S399-00002SET

Tohatsu Water Relief Valve

Hassle-free pressure control work in relay pumping operation.



Specification	
Adapter	JIS thread
Outlet diameter	75 (3 inch) x 65mm (2-1/2 inch) 65 (2-1/2 inch) x 65mm (2-1/2 inch)
Measurement	190 x 225mm (75 x 65mm) 160 x 200mm (65 x 65mm)
Weight	1.65kg (75 x 65mm) 1.6kg (65 x 65mm)
Relief water flow	700ℓ per minute at 0.6MPa
Min. operational pressure	0.2MPa
Part number	685-40100-1 (75x 65mm) 685-40140-1 (65 x 65mm)

Flow Indicator

It is not necessary to calculate the pressure loss of fire hose in operation.
The operator is able to check easily to see if you can have proper water flow in the hose or not.



Specification	
Adapter	JIS thread
Outlet diameter	Female 65mm (2-1/2 inch) x Male 65mm (2-1/2 inch)
Measurement	198 x 116mm
Weight	1.7kg
Display of water flow	Analogue display
Indicator of water flow	400ℓ-600ℓ
Part number	6B6-39410-0

Maintenance bucket

Easy & Convenient flushing device to protect from corrosion.



Specification	
Adapter	JIS thread
Outlet diameter	75mm (3 inch) 65mm (2-1/2 inch)
Measurement	191 x 296mm
Weight	1.3kg
Bucket volume	7ℓ
Part number	128-39320-3 (75mm/3inch) 151-39320-3 (65mm/2-1/2inch)

PERFORMANCE CURVE

