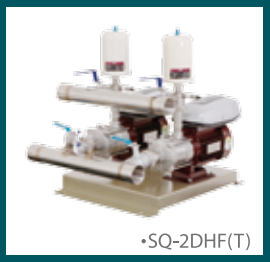
GLOBAL PUMP SOLUTION DOOCH

60Hz


•NSQP-2DHF(T)


• NSQ-2DHF(T)


•SQ-2DHF(T)


•NSQP-2DHM


•SQ-2DHM

BOOSTER PUMP SYSTEM

NSQ(P)-2DHF(T), SQ-2DHF(T), NSQ(P)-2DHM, SQ-2DHM SERIES

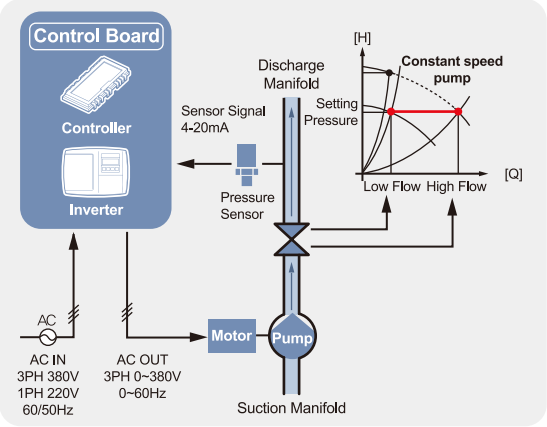
dooch
두크펌프

Booster System

DOOCH booster system supplies constantly-pressurized water to the residential buildings and high rise office buildings, where it is required.
It is operated at the possibly lowest energy consumption according to the water supply demand, with controlling the number of pump operation and speed of their motors.

Features

High reliability
High efficiency
Fully integrated, all-in-one systems
Systems to match every need and requirement
Easy installation and operation

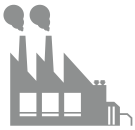


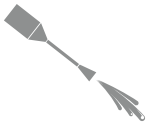
Applications

- Apartments
- Residential Buildings
- Office Buildings
- Hotels
- Industry


Pressurization


Boiler System


Industrial Circulation Pump Cooling System


High Pressure Washing System


Sprinkler


R/O Filtration

System Specification

Method of Control	Individual VFD
Models	NSQ(P)-2DHF(T), SQ-2DHF(T) NSQ(P)-2DHM, SQ-2DHM
Type	VFD installed on each pumps
Installation	Indoor
Temperature	-10℃~+40℃
Liquid Type	Clean Water
Liquid Temp.	0℃~70℃
Pump	Horizontal Centrifugal Pumps
No. of Pumps	2
Power	SQ- 1PH 220V×60Hz (0.5~3HP) 3PH 380~440V×60Hz (0.75~10HP)

※ Inlet / Outlet Casing Material
DHFT: GCD450
DHF: Stainless Steel

Definition of Model (DHF series)

NSQ P - 2 DHF (T) 4 - 3 (M) - 50A - 1L × 2

- 1L × 2 — Number of Pressure tanks
- 50A — Manifold Dimensions
- (M) — Input power

"M" Indicates	Without "M" Indicates
Input Power: 1PH 220V	Input Power: 3PH 380V

- 3 — Number of Impellers
- 4 — Max. Flow rate(m^3/h)
- (T) — Inlet/Outlet Casing Material

"T" Indicates	Without "T" Indicates
 GCD450	 Stainless steel

- DHF — Pump Model
- 2 — Number of Pumps
- P — Premium Model

"P" Indicates
7" Touch screen LCD monitor 

- NSQ — Type of V.F.D.

Model	NSQ-Drive	SQ2-Drive (1PH)
Features		
Specification	Motor Power : 0.55~22kW Input : 3PH 380~440V (0.55~22kW) Output : 3PH 380~440V Frequency : 50/60Hz	Motor Power : 0.37~2.2kW Input : 1PH 200~230V (0.37~2.2kW) Output : 3PH 220V Frequency : 50/60Hz 7" touch monitor is un-adaptable

Definition of Model (DHM series)

NSQ P - 2 DHM 4 - 1.5 (M) - 50A - 1L × 2

- 1L × 2 — Number of Pressure tanks
- 50A — Manifold Dimensions
- (M) — Input power (1PH 220V)

"M" Indicates	Without "M" Indicates
Input Power: 1PH 220V	Input Power: 3PH 380V

- 1.5 — Motor Power(kW)
- 4 — Max. Flow rate(m^3/h)
- DHM — Pump Model
- 2 — Number of Pumps
- P — Premium Model

"P" Indicates
7" Touch screen LCD monitor 

- NSQ — Type of V.F.D.

Model	NSQ-Drive	SQ2-Drive (1PH)
Features		
Specification	Motor Power : 0.4~22kW Input : 1PH 200~230V (0.4~2.2kW) 3PH 380~440V (0.75~22kW) Output : 3PH 220~440V Frequency : 50/60Hz	Motor Power: 0.75~2.2kW Input : 1PH 200~230V (0.75~2.2kW) Output : 3PH 200~230V Frequency : 50/60Hz 7" touch monitor is un-adaptable

Control Specifications / Features

	NSQP-2DHF(T) Series Individual Inverter Horizontal Booster System (Premium Model)	SQ2-2DHF(T) Series Individual Inverter Horizontal Booster System
Appearance		
Features	• 7" LCD touch monitor • All pumps are fitted with an integrated V.F.D. which are directly mounted on the motor • High reliability • Communication between pumps	• All pumps are fitted with an integrated V.F.D. which are directly mounted on the motor • High reliability • Constant discharge pressure • Lowest energy consumption
Inverters	(NSQ-Drive) 	(SQ2-Drive) 
Manifolds	 Standard Manifold	 Standard Manifold
Panel	  7" LCD Touch Screen Monitor  3.5" Color display (The latest GUI is applied)	

Control Specifications / Features

	NSQ-DHF(T) Series Individual Inverter Horizontal Pump	SQ2-DHF(T) Series Individual Inverter Horizontal Pump
Appearance		
Features	• Equipped with a NSQ-Drive • High reliability • Maintains constant pressure • Soft start functionality • Compact design/Easy installation	• Equipped with a SQ2-Drive • High Reliability reliability • Maintains constant pressure • Soft start functionality • Compact design/Easy installation
Inverters	(NSQ-Drive) 	(SQ2-Drive) 
Manifolds	 Check Valve	 Check Valve

Control Specifications / Features

	NSQP-2DHM Series Individual Inverter Horizontal Booster System (Premium Model)	SQ2-2DHM Series Individual Inverter Horizontal Booster System
Appearance		
Features	• 7" LCD touch monitor • All pumps are fitted with an integrated V.F.D. which are directly mounted on the motor • High reliability • Communication between pumps	• All pumps are fitted with an integrated V.F.D. which are directly mounted on the motor • High reliability • Constant discharge pressure • Lowest energy consumption
Inverters	(NSQ-Drive) 	(SQ2-Drive) 
Manifolds	 Standard Manifold	 Standard Manifold
Panel	  7" LCD Touch Screen Monitor	

Control Specifications / Features

	NSQ-DHM Series Individual Inverter Horizontal Pump	SQ2-DHM Series Individual Inverter Horizontal Pump
Appearance		
Features	• Equipped with a NSQ-Drive • High reliability • Maintains constant pressure • Soft start functionality • Compact design/Easy installation	• Equipped with a SQ2-Drive • High reliability • Maintains constant pressure • Soft start functionality • Compact design/Easy installation
Inverters	(NSQ-Drive) 	(SQ2-Drive) 
Manifolds	 Check Valve	 Check Valve

SQ2-DRIVE

VARIABLE FREQUENCY DRIVE

SQ2-Drive

SQ2-Drive is a single phrase variable frequency drive that manages pump performance to match a wide range of system conditions and requirements. Adjusting the pump speed is the most efficient means of controlling the pump flow and reducing the energy consumption.
SQ2-Drive is a motor-independent structure, it can be mounted directly on the motor or on the wall.

Technical Specification

Available Power	0.37~22kW
Input Power	1Φ×200~230V
Output Power	3Φ×200~230V
Frequency	50/60Hz
Max. Frequency	60Hz
IP Class	IP 55
Max. Distance Of Pressure Transmitter	Max. 10m
Ambient Temp.	-10℃~+40℃

Protections

- Dry Running
- Low Water Level Detection
- Over/Under Voltage Inverter
- Min. Flow Stop
- Temp. Pressure Setting
- Sensor Failure
- Pump Freezing
- Pump Overload

SQ-Drive Features

1. Stand alone inverter for a single pump
2. Hydraulic control functions included
3. Electrical and hydraulic pump protections
4. Easy retrofitting on existing pump systems
5. Flexible installations(motor, wall)
6. Small compact design and space saving
7. FND display for easy status monitoring and programing

NSQ-Drive

NSQ-DRIVES are pump specific variable frequency drive that manages pump performance to match a wide range of system conditions and requirements. Adjusting the pump speed is the most efficient means of controlling pump flow and reducing the energy consumption.
As the drives are self-cooling and motor-independent structure, it can be mounted directly on the motor or on the wall.

Technical Specification

Available Power	0.55~22kW
Input Power	3Φ×380~440V (0.55~22kW)
Output Power	3Φ×380~440V (0.55~22kW)
Frequency	50/60Hz
Max. Frequency	60Hz
IP Class	IP 55
Max. Distance Of Pressure Transmitter	Max. 10m
Ambient Temp.	-10℃~+40℃

Protections

- Dry Running
- Low Water Level Detection
- Over/Under Voltage Inverter
- Min. Flow Stop
- Temp. Pressure Setting
- Sensor Failure
- Pump Freezing
- Pump Overload

NSQ-Drive Features

1. Energy Savings up to 70%
2. Multi-pump control capacity of up to 6 pumps
3. Hydraulic control functions included
4. Electrical and hydraulic pump protections
5. Automatic recovery after power failure
6. Easy retrofitting on existing pump system
7. Flexible installation either directly on a standard I.E.C. motors or on walls

TM 3.5

3.5 INCH COLOR MONITOR

Color Monitor TM3.5

TM 3.5 monitor receives data from pumps with inverters, and provides the integrated information for user's easy understanding.
Also, it is easy to set the system pressure, and user can understand the various pump information such as pump operation log or alarm log, with user-friendly UX and GUI.

Specification

Input Power	1Φ×200~440V / 50~60Hz
Communication Port	RS485 communication MOD BUS-RTU
Display	3.5" TFT TRUE COLOR LCD(320×240)
Multi-function Input/Output	SYSTEM RUN output relay contact SYSTEM FAULT output relay contact
Storage Medium	SD card available (Logging data storage)
Update Port	USB ×1EA

Properties

- Full color display
- Easy to set the pressure
- Icons includes; History of Run/Alarm and various information
- Languages includes; Korean/Chinese/English
- RS-485: Integrated communication with each drive information
- USB PORT: Firmware upgrade port
- Available up to 3 pumps
- Logging data records
  (Setting pressure, Current setting, Operation data of each pump)

Features

- Full Color Display
- Touch Screen Interface
- User-Friendly/Easy to function
- Icons includes; History of Run/Alarm and other various information
- Languages include; Korean/Chinese/English
- RS 485: Integrated communication
- USB PORT: Firmware upgrade port

Specification

- 7" TFT LCD
- Touch Screen Monitor
- RS-485 PORT : 2 ports
- CAN COM. PORT : 1
- Run/Alarm contact
- Power: 220~440V
- Temp. & Humidity : -10~40℃ / 90% Under
- USB PORT

Model Application

Models	Available	Unavailable
NSQ-Series		●
NSQP-Series	●	

※ The P after the model name means a premium model with an LCD touch screen monitor.

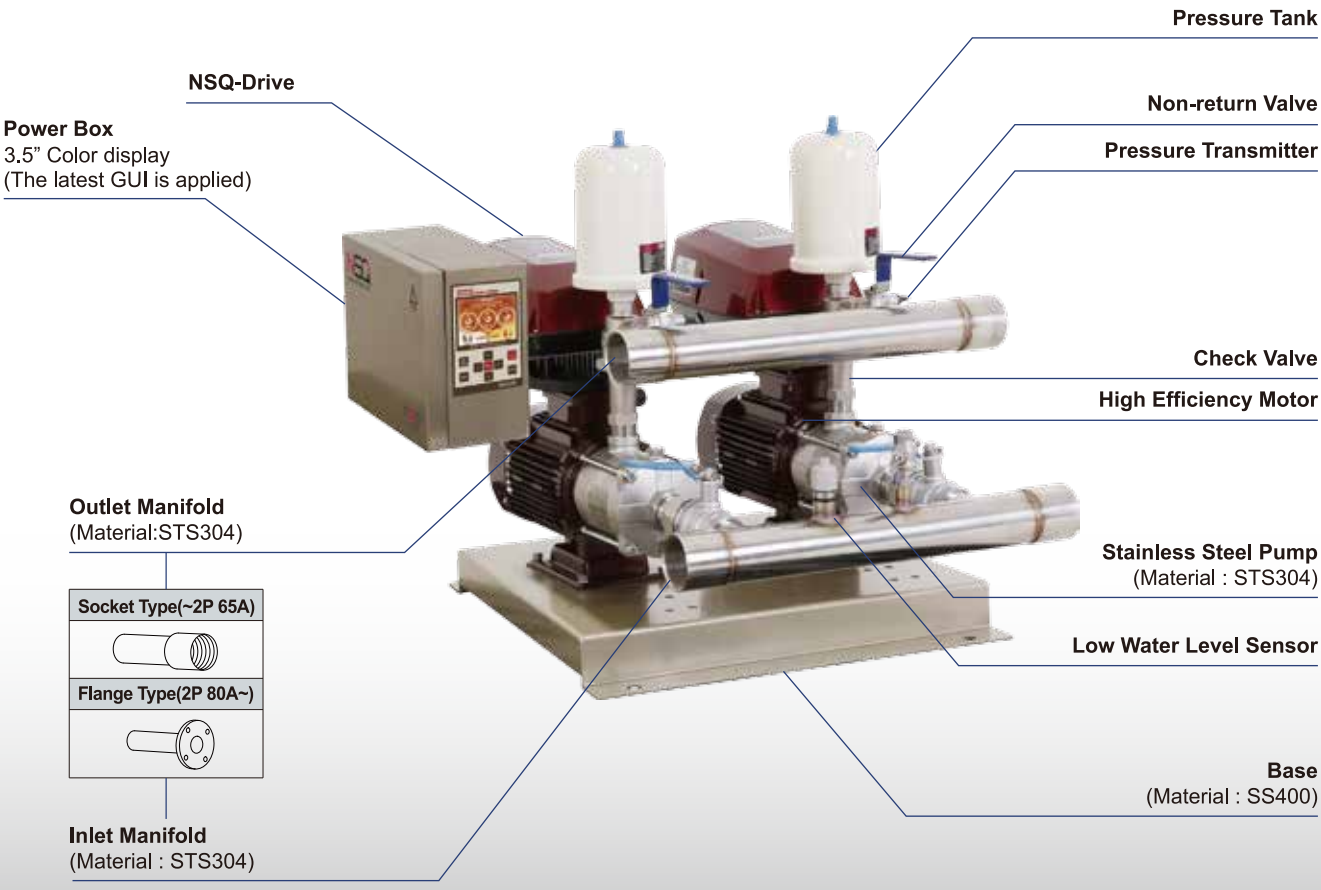
GUI(Graphic User Interface) Introduction

1. Current Date and Time
2. Setting Pressure Value
3. Current Pressure Value
4. Current Output Ratio
5. Icon/Current condition of each pumps (Up to 6 pumps)

	Ratio Current operating ratio		**Current** Current Value
	Power Current power consumption		**Frequency** Current operating frequency
	Accumulated Power Current Power accumulation		**Output Power** Current Output Power

6. Status
7. Run History
8. Set-Up

NSQ-2DHF(T) Series System

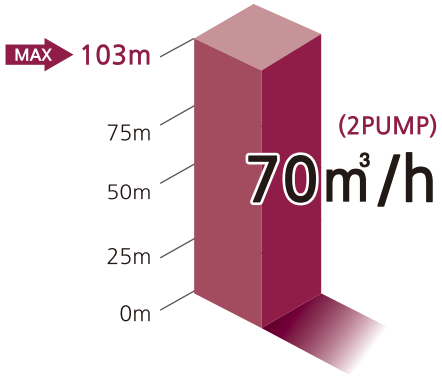


NSQ-2DHF(T) Series

INDIVIDUAL INVERTER HORIZONTAL BOOSTER SYSTEM

Specification

- Max. Flow(Q) : 70m³/h
- Max. Head(H) : 103m³/h
- No. of pumps : Up to 2 pumps (Please contact the office for 3 pumps)
- Input Power : 3PH 380V~440V / 60Hz (0.75~10HP)



NSQ-2DHF(T) Series

NSQ-2DHF(T) series is built on the basis of DHF pumps. The main difference between the DHF and the NSQ-DHF(T) pump is the variable frequency drive. Enhanced with the NSQ-Drive, NSQ-2DHF(T) series with the appropriate sensor is turned into an intelligent, variable speed pumping system. The NSQ-Drives adjust the motor speed which in turn provides constant pressure or differential pressure to the flow rate.

※ Inlet/Outlet casing material
"T" indicates : GCD450
Without "T" indicates : Stainless steel

Functions

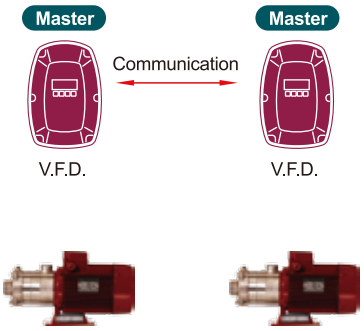
- Control Mode - Pressure/ differential pressure
- Set the setting pressure
- Dry-running and freeze protection
- Automatic flowless sensor
- Automatic recovery after power failure Inverter
- Pump protection
- FND - Status monitoring
- Equipped with a RS485 - Optional

Features

- 3.5" Color display (The latest GUI is applied)
- Each pump is individually controlled by a NSQ drive
- High reliability (Multi-master control)
- Constant discharge pressure
- Reduced tank and panel sizes
- Less wear of the system during operation
- Compact assembly and installation

Applications

- Pressure boosting systems
- Domestic water supply systems
- Cooling systems
- Air-conditioning systems
- Small industrial water supply systems
- Horticultural irrigation systems



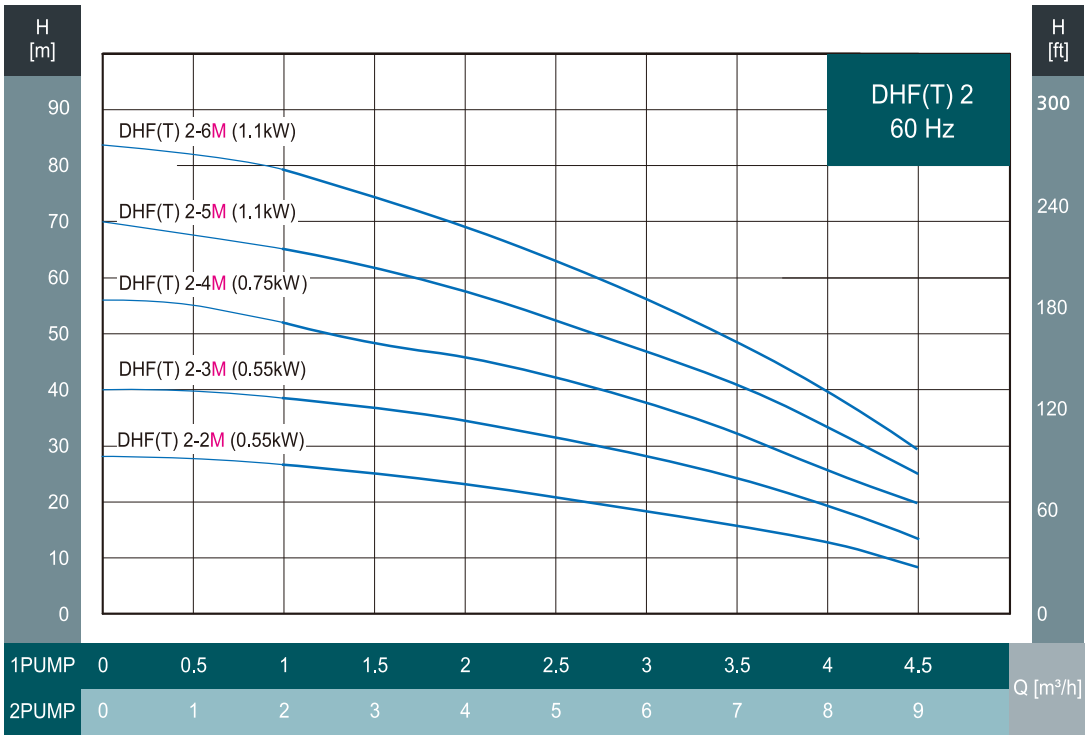
- **Alternative Operation**
  - Alternative operation refers to the total sum of the power accumulated
  - This in-return ensures that the operating of each pump will be the same and extends the life-line of each pump as the wear is evenly distributed amongst the pumps.

Model Features

Model	Power Specifications		Number of Pumps		LCD Touch Panel
	1PH 200V~230V 60Hz (0.5~3HP)	3PH 380V~440V 60Hz (0.75~10HP)	2	3	
NSQ-2DHF(T) Series	×	●	●	Special order	×
NSQP-2DHF(T) Series	×	●	●	Special order	●
SQ2-2DHF(T) Series	●	×	●	×	×

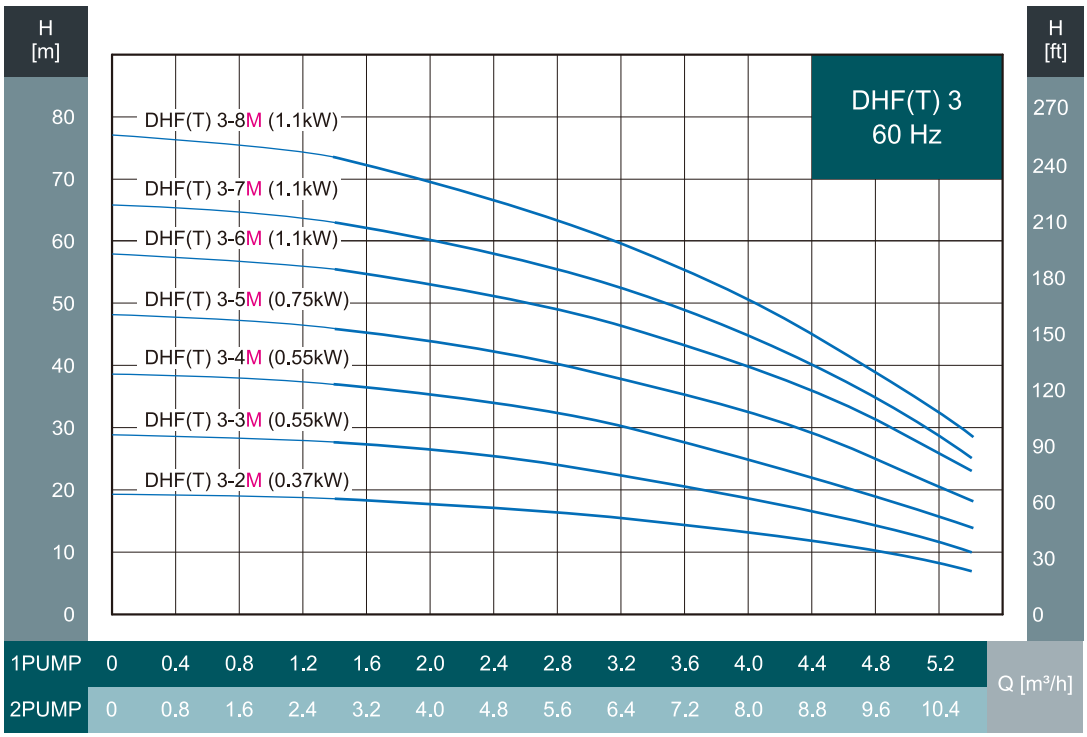
※ Inlet/Outlet Casing Material
"T" indicates : GCD450
Without "T" indicates : Stainless steel
※ TM 3.5 is installed in NSQ-2DHF(T) 3 Phase series.

2DHF(T) 2 Series



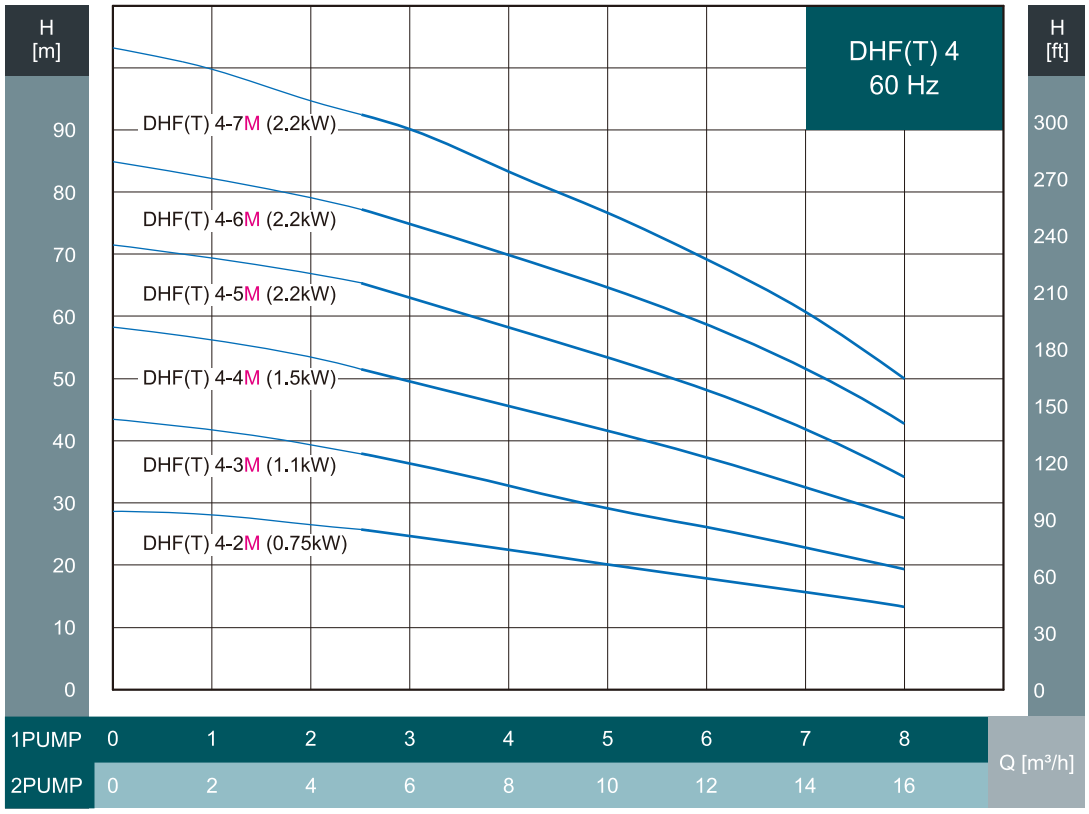
Notice | "M" is deleted in model names if input power is 3-phase 380V.
SQ2-DHF(T) Series is a single-phase product.

2DHF(T) 3 Series



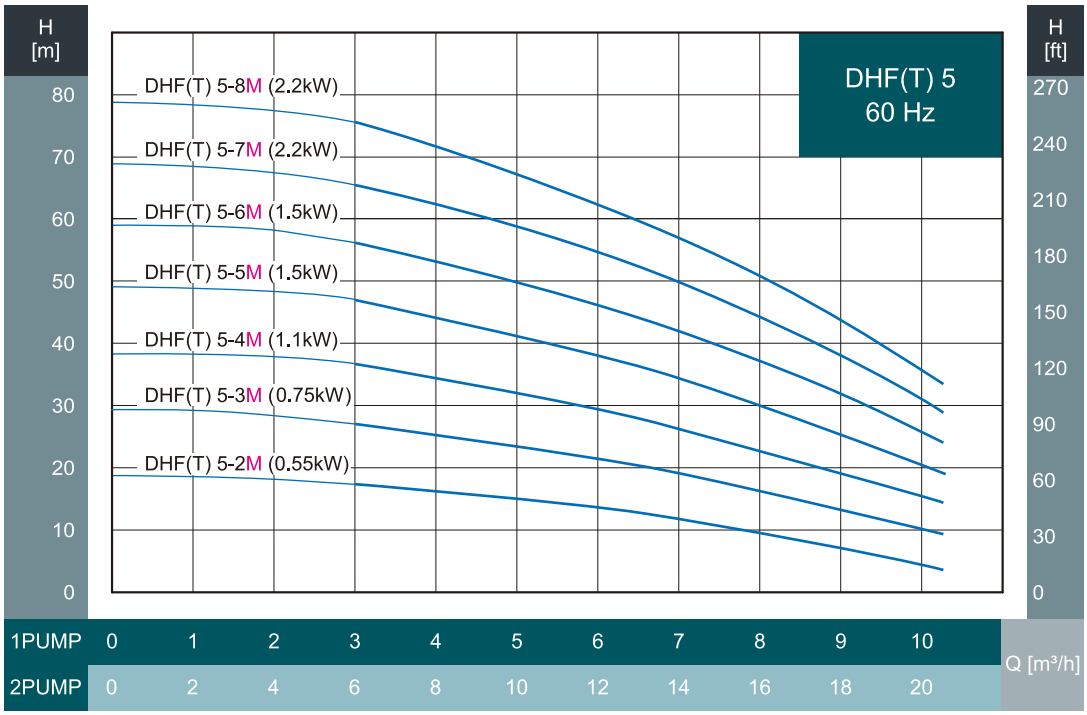
Notice | "M" is deleted in model names if input power is 3-phase 380V.
SQ2-DHF(T) Series is a single-phase product.

2DHF(T) 4 Series



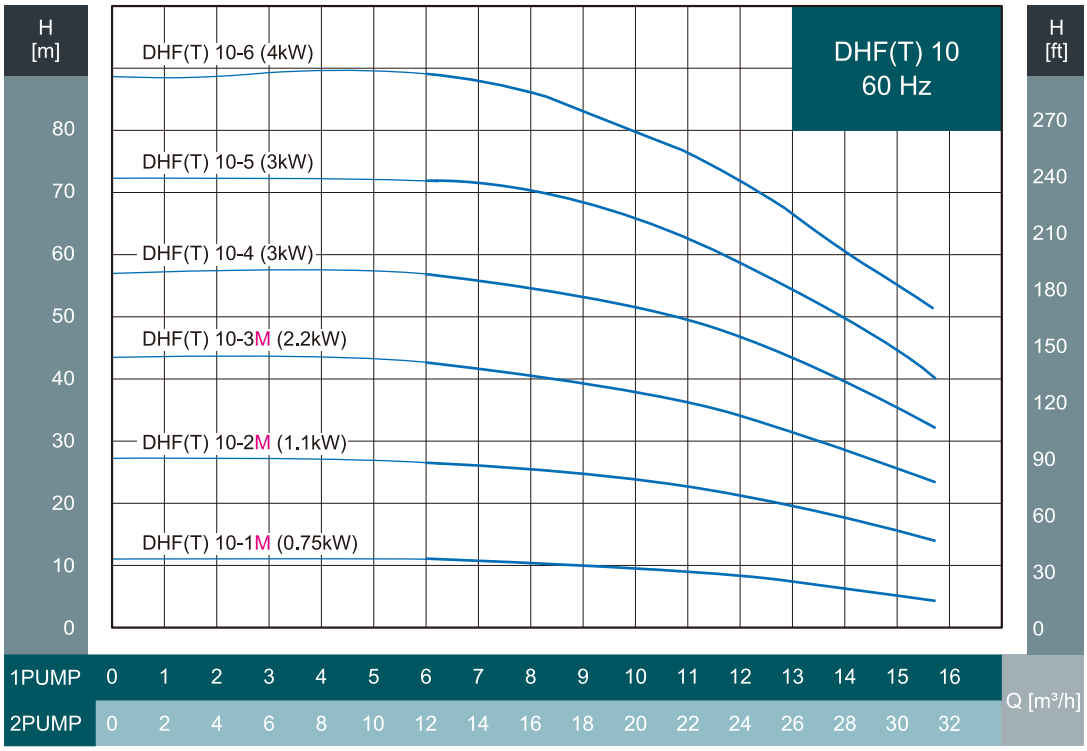
Notice | "M" is deleted in model names if input power is 3-phase 380V.
SQ2-DHF(T) Series is a single-phase product.

2DHF(T) 5 Series



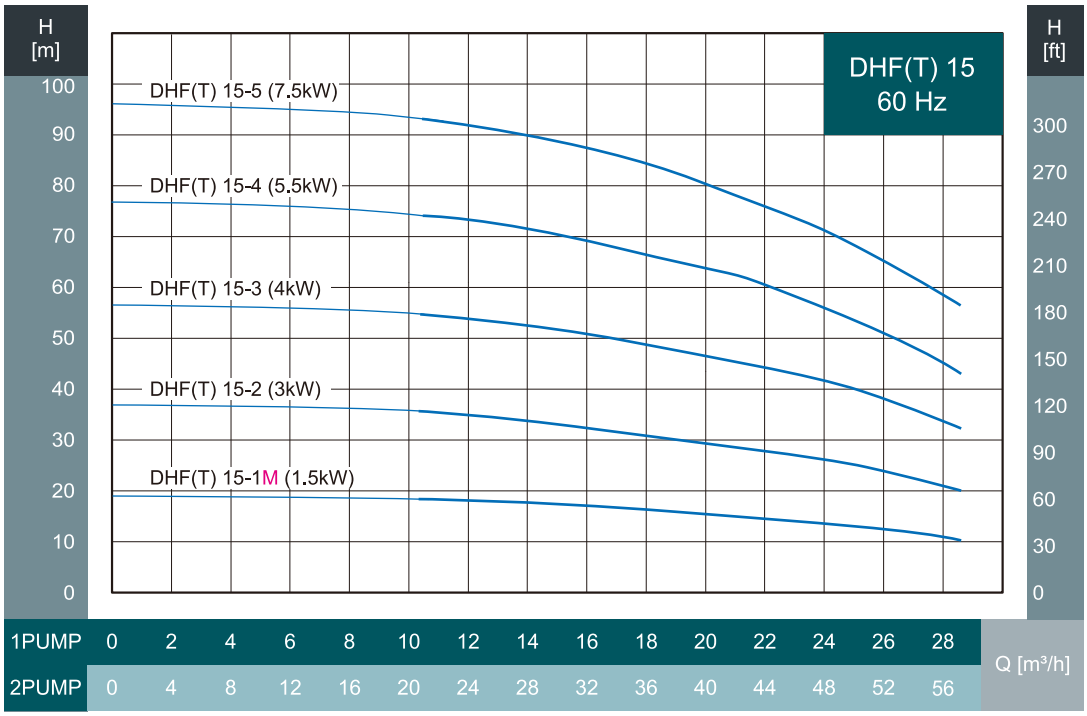
Notice | "M" is deleted in model names if input power is 3-phase 380V.
SQ2-DHF(T) Series is a single-phase product.

2DHF(T) 10 Series



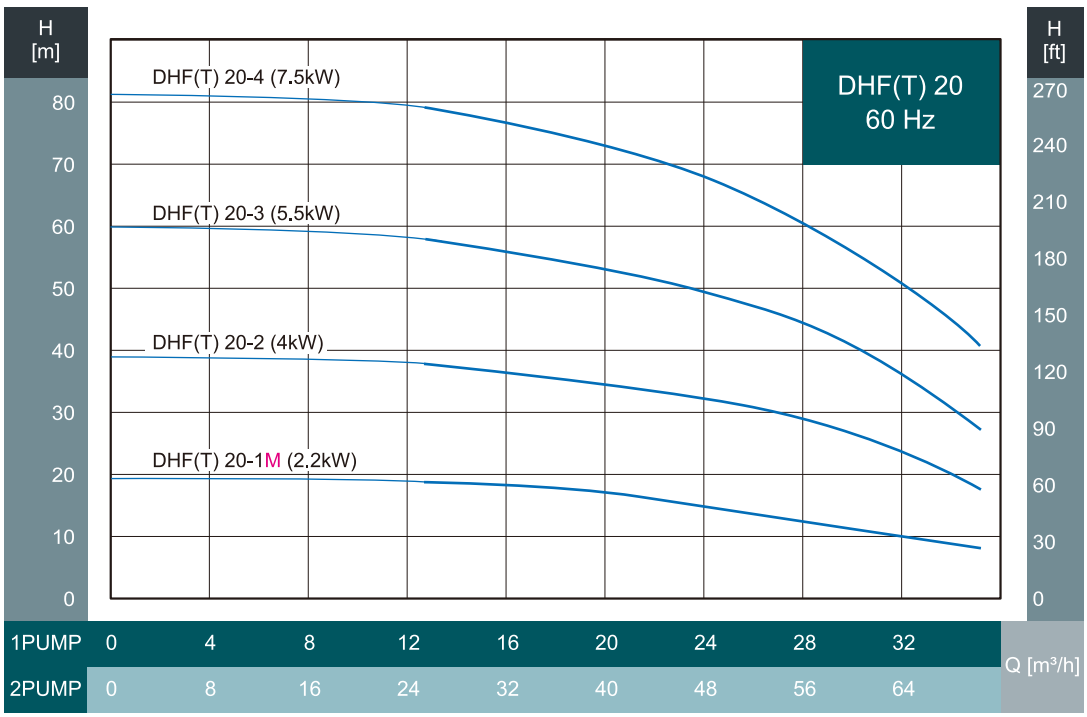
Notice | "M" is deleted in model names if input power is 3-phase 380V.
SQ2-DHF(T) Series is a single-phase product.

2DHF(T) 15 Series



Notice | "M" is deleted in model names if input power is 3-phase 380V.
SQ2-DHF(T) Series is a single-phase product.

2DHF(T) 20 Series



Notice | "M" is deleted in model names if input power is 3-phase 380V.
SQ2-DHF(T) Series is a single-phase product.