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Агрегат низкого давления со встроенной системой фильтрации YTH-GCI

YTH-GCI

Large Flow Low Pressure Coolant Unit with

Built-in Cyclone Filter

Cyclone Filter

The cyclone system effectively removes sludge from the coolant.

Impeller Pump

The impellers spin and accelerate the liquid, thereby generating pressure inside the pump. This pump is designed to transfer large flow of liquid.

MODEL NUMBERING SYSTEM

TOP — YTH ① ② - ③

Motor Capacity	Motor Type	Pump Capacity* (Impeller Pump)
1100: 1.1 kW 1500: 1.5 kW 2200: 2.2 kW	R1/R2/R3/R4/R5/R6/R7 See the "MOTOR SPECIFICATIONS" table below for the voltage, frequency, approvals	I075CG: 70 L (5 stages) with 50 Hz motor I073CG: 70 L (3 stages) with 60 Hz motor I135CG: 135 L (5 stages) with 50 Hz motor I132CG: 135 L (2 stages) with 60 Hz motor I303CG: 300 L (3 stages) with 50 Hz motor I302CG: 300 L (2 stages) with 60 Hz motor

*I075CG, I155C, I305C can not be operated at 60 Hz.

SPECIFICATIONS

Model	Motor Capacity (kW)	Motor Type	Flow Rate (L/min)	Total Pump Head (m)	Approximate Weight (kg)
YTH1100**I075CG	1.1	R1, R3, R4, R5	70	50	28.3
YTH1100**I073CG	1.1	R2, R3, R6, R7	70	45	27.3
YTH1500**I135CG	1.5	R1, R3, R4, R5	135	50	40
YTH1500**I132CG	1.5	R2, R3, R6, R7	135	35	40
YTH2200**I303CG	2.2	R1, R3, R4, R5	300	45	70
YTH2200**I302CG	2.2	R2, R3, R6, R7	300	40	69

MOTOR SPECIFICATIONS

Motor Type	Voltage (V)	Frequency (Hz)	Approvals
R1	415	50	IE3, CE
R2	230	60	UL, CC, CE
R3	200	50/60	IE3, CE
R4	400	50	IE3, CE

Motor Type	Voltage (V)	Frequency (Hz)	Approvals
R5	380	50	GB2, CCC, CE
R6	440	60	UL, CC, CE
R7	220	60	IE3, CE



FEATURES OF YTH-CI/GCI

Large Flow Low Pressure Coolant Unit

YTH-CI/GCI is designed to deliver large flow at low pressure with built-in cyclone filter. Its compact design enables easy retrofitting to your existing tank of NC lathe, machining center or grinding machine, etc.

The large flow also ensures high efficiency in sludge removal, which substantially reduces problems around the tank, such as dimensional deviation of workpieces, clogged plumbing due to excessive accumulation of sludge.

- Total Pump Head: 35–65 m
- Maximum Flow Rate: CI 15°C: 150 L/min
CI 30°C: 300 L/min
GCI 07°C: 70 L/min
GCI 13°C: 135 L/min
GCI 30°C: 300 L/min

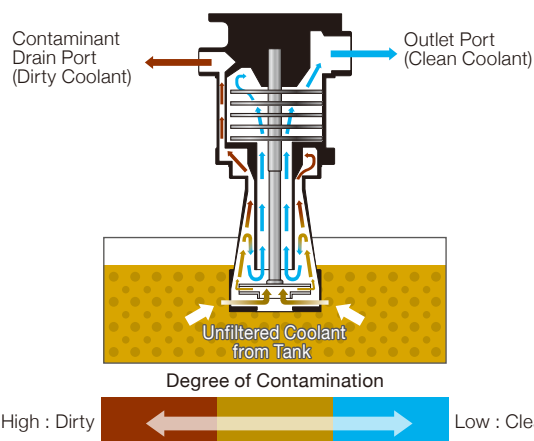


Cyclone Filter

This unique reversed cyclone system can separate clean coolant and dirty coolant inside the pump. Dirty coolant is pushed up through the side surface of cyclone filter by centrifugal force and discharged with sludge. Filtered clean coolant is collected to the center of cyclone filter and boosted up by multiple-stage impellers.

Filter Rating (Nominal value)

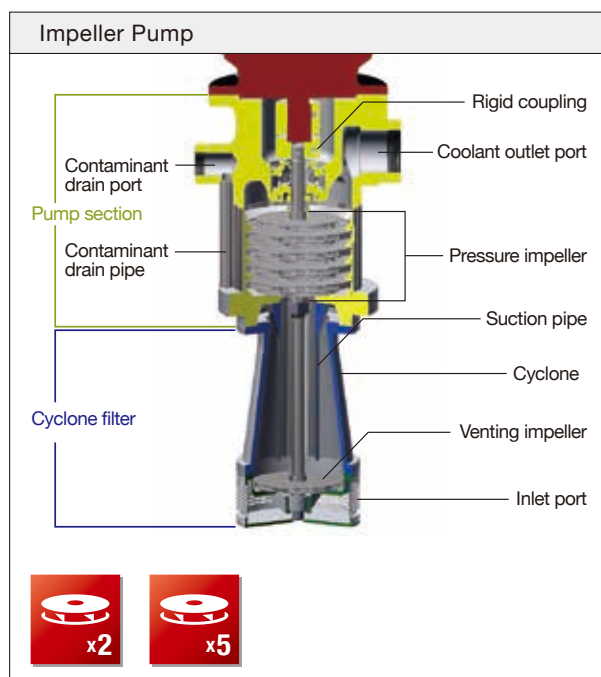
Suction strainer	3 mm (Solids larger than this must be removed from the tank)
Cyclone filter	Water soluble coolant 100 µm: 99.9% (Specific weight 2.7) Straight oil 100 µm: ≥ 80% (Specific weight 2.7)



Impeller Pump

YTH-CI/GCI employs impellers whose design is best suited for supplying large quantity of coolant and capable of boosting up pressure with its multiple stage impellers.

- Compatible fluid type
 - Water soluble cutting fluids.
 - Non-water soluble coolant with kinematic viscosity of 22 mm²/s or less.
 - Incompatible with lubricant oils and fuel oils.
 - Incompatible with clear water, demineralized water, aqueous solutions and viscous fluids which do not offer rust-protection, corrosive fluids and solvents.



SLUDGE COLLECTION WITH YTH-CI/GCI

STEP1

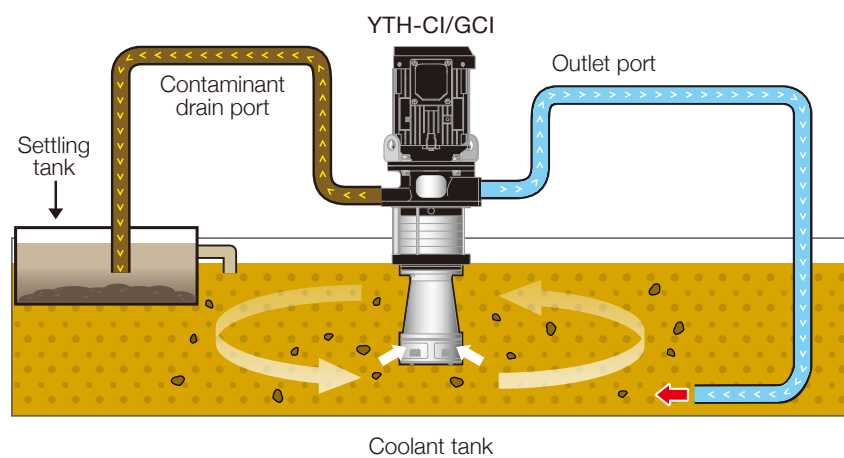
Install YTH-CI/GCI in a way that filtered clean coolant from the outlet port can circulate all around the tank.

STEP2

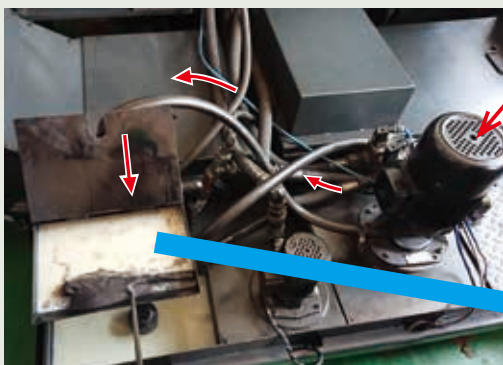
Proper agitation of the tank by following STEP 1 can prevent sludge precipitation in the tank. YTH-CI/GCI can also collect sludge floating in the tank and discharge from the contaminant drain port.

STEP3

Discharged sludge can be collected with YTH wire mesh bucket or a settling tank.



[How Sludge is Collected with YTH-GCI]



The large flow low pressure unit is discharging sludge.

How Sludge is Collected with YTH-GCI
(DEMO VIDEO)



Sludge in the tank that was collected
by the large flow low pressure unit.

APPLICATION EXAMPLES

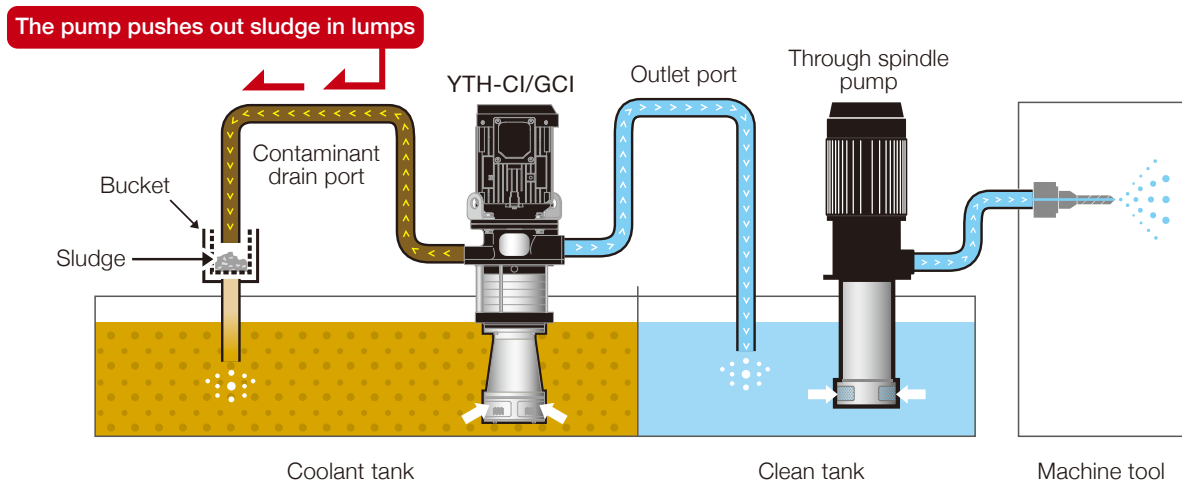
Plan - A To Transfer Coolant to an Isolated Clean Tank

YTH-CI/GCI transfers cleaned coolant from a coolant tank to an isolated clean tank.

A plate filter is no longer necessary between the tanks, so the users will be free from the maintenance of plate filter.

Furthermore YTH-CI/GCI can separate sludge from the coolant and discharge from contaminant drain port.

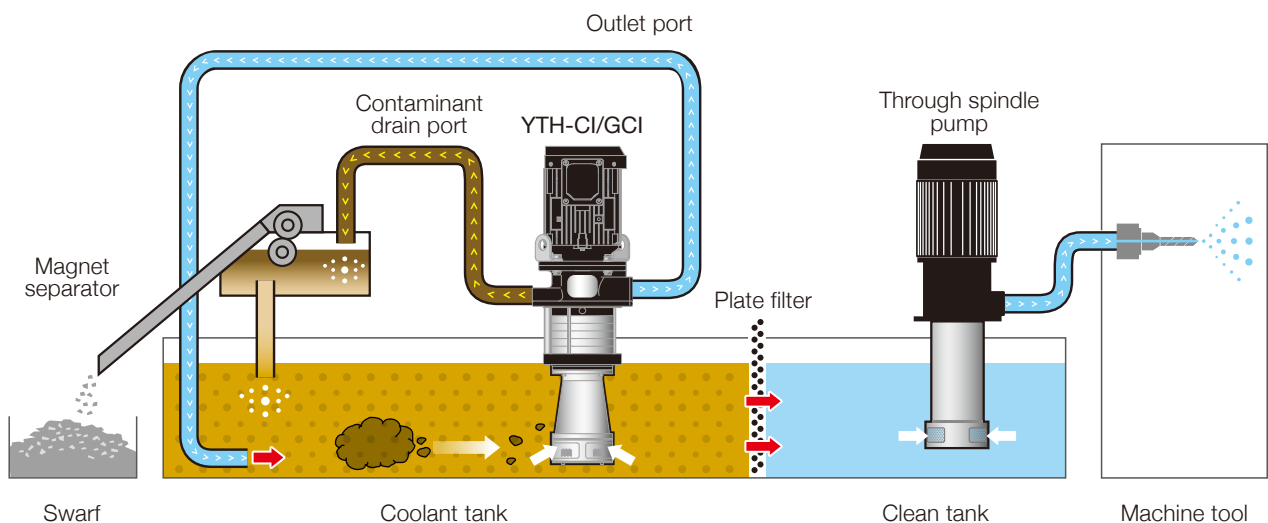
Discharged sludge can be collected easily with YTH wire mesh bucket, allowing substantial reduction in coolant maintenance.



Plan - B Tank Cleaning System ①

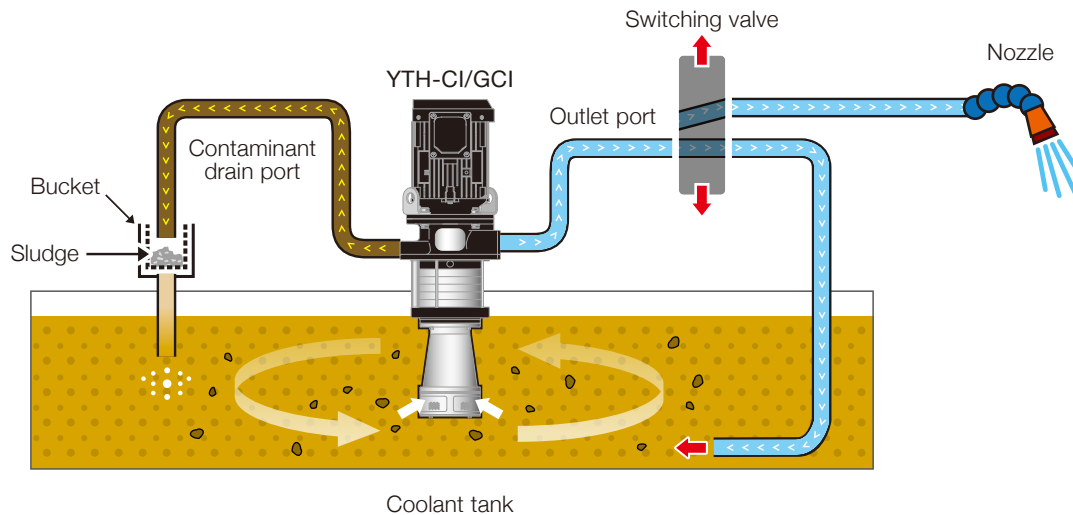
YTH-CI/GCI can be an excellent tank cleaner.

The circulation of coolant created by YTH-CI/GCI helps prevent precipitation of sludge in the tank and eliminate sludge effectively, allowing substantial reduction in coolant maintenance.



Plan - C Tank Cleaning System ②

YTH-CI/GCI delivers cleaned coolant directly to machine tool. Additionally, once the operation is stopped, it can agitate the coolant tank and effectively collect sludge in the tank by changing the flow direction with switching valve.



Plan - C

1

To Supply Cleaned Coolant

Cleaned coolant is supplied at all times, reducing machine downtime.

2

To Collect Sludge

YTH-CI/GCI will effectively collect sludge, ensuring the substantial reduction in tank maintenance.

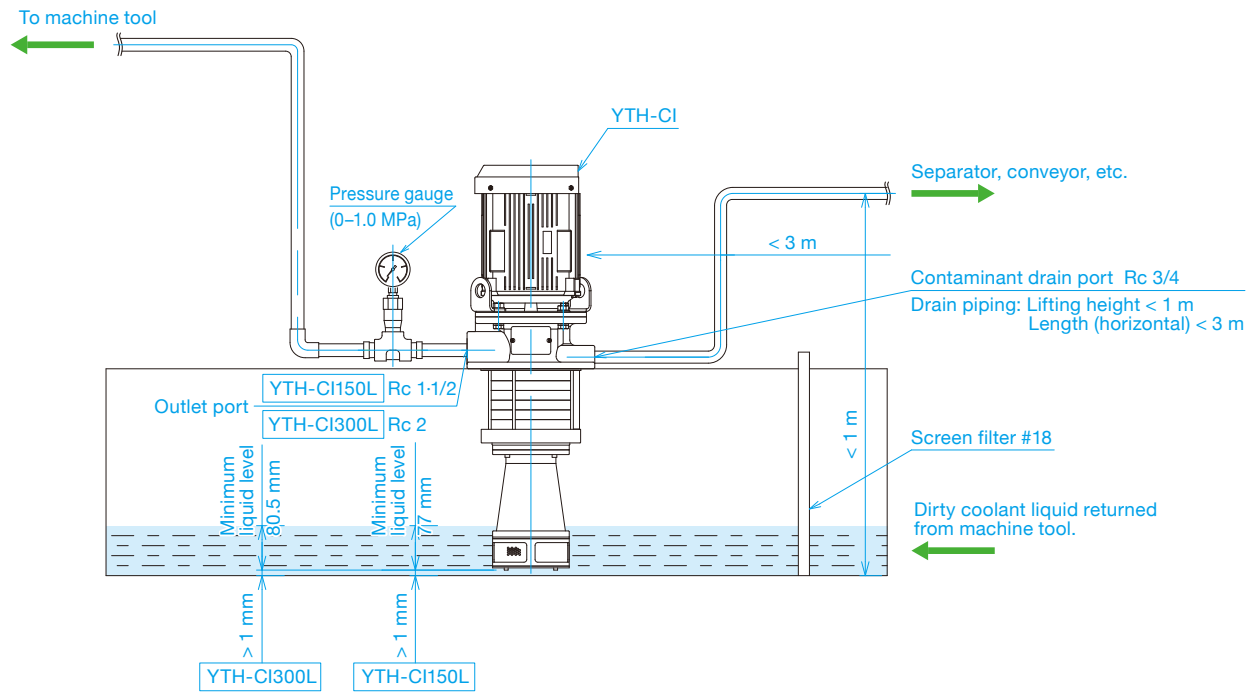
3

To Agitate the Coolant Tank

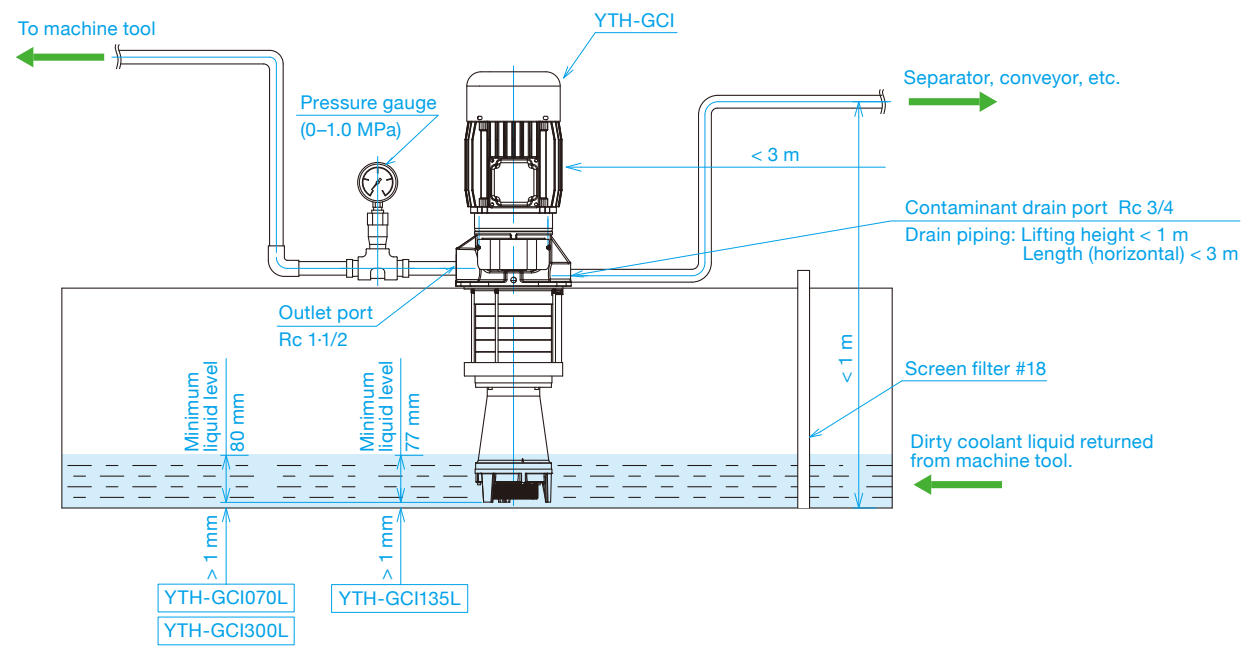
Proper agitation of coolant with YTH-CI/GCI can delay the growth of anaerobic bacteria in a coolant.

3 roles of YTH-CI/GCI

SAMPLE SYSTEM LAYOUT (YTH-CI)



SAMPLE SYSTEM LAYOUT (YTH-GCI)



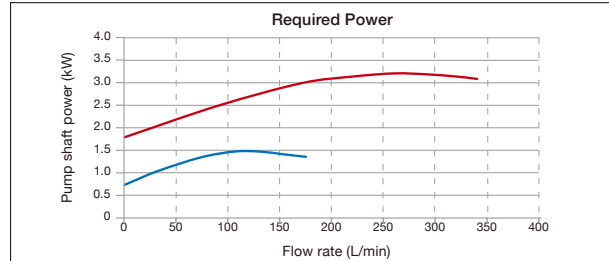
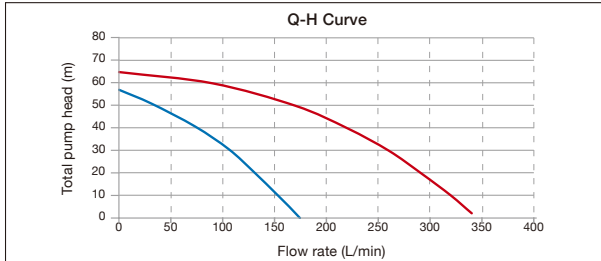
PERFORMANCE CURVES (YTH-CI)

Water Soluble Coolant [General Performance]

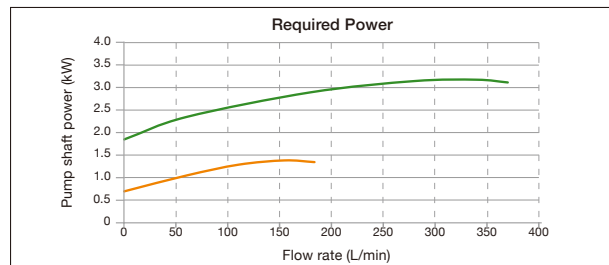
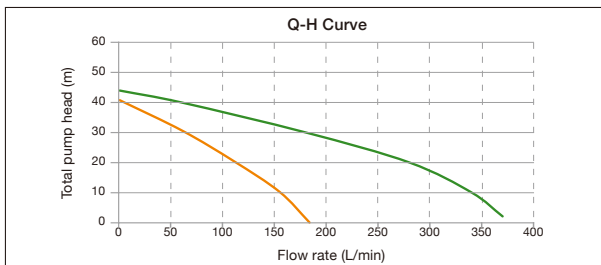
Test oil: JIS K2241 A3 solution containing 2% Water soluble cutting fluid.

— YTH-CI155C — YTH-CI305C
— YTH-CI152C — YTH-CI302C

50 Hz



60 Hz

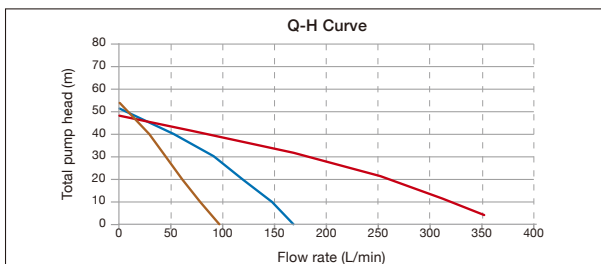


PERFORMANCE CURVES (YTH-GCI)

Water Soluble Coolant [General Performance]

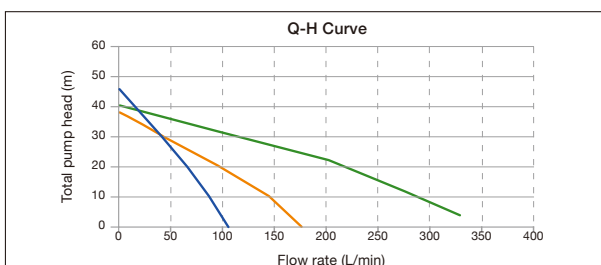
Test oil: JIS K2241 A3 solution containing 2% Water soluble cutting fluid.

50 Hz



— YTH-I135CG
— YTH-I303CG
— YTH-I075CG

60 Hz



— YTH-I132CG
— YTH-I302CG
— YTH-I073CG

YTH WIRE MESH BUCKET (Sludge Collection Bucket)

YTH wire mesh bucket is made of stainless steel with double layered structure (Lower and upper layers).

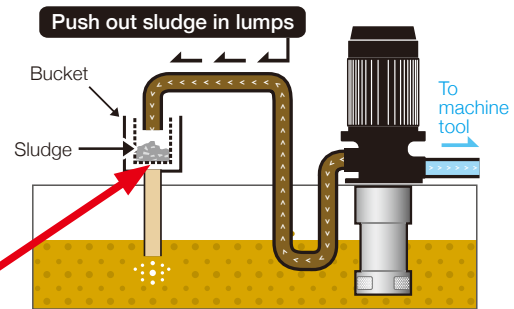
The dirty coolant discharged from contaminant drain port will be strained through its wire mesh and only sludge will be collected.

Compatible Sludge Materials for YTH Wire Mesh Bucket (Sludge Collection Bucket)

- Water soluble coolant.
- Magnetic materials (Cast metal), Non-magnetic materials (Aluminum).



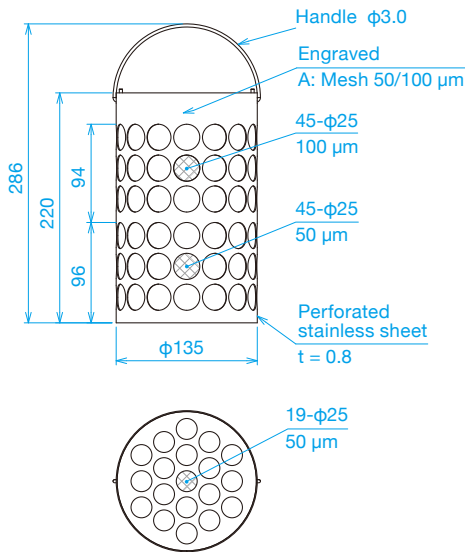
[Simple Layout to Collect Sludge]



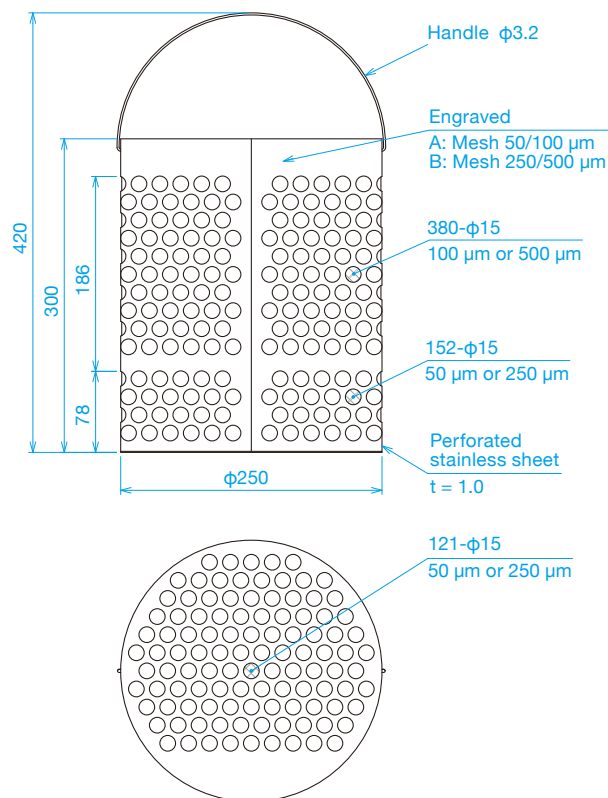
Model	Sludge materials	Wire mesh (Lower layer/Upper layer) μm	Expected flow rate L/min	External dimensions mm
YTH Wire Mesh Bucket 135A (50/100 μm)	Aluminum	50/100	20–40	φ135 × 220
YTH Wire Mesh Bucket 250A (50/100 μm)			80	φ250 × 300
YTH Wire Mesh Bucket 250B (250/500 μm)	Cast metal/Aluminum	250/500		

*As a guideline, empty the bucket each time the bucket is filled about 40% of its capacity.

YTH Wire Mesh Bucket 135A



YTH Wire Mesh Bucket 250A/B



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