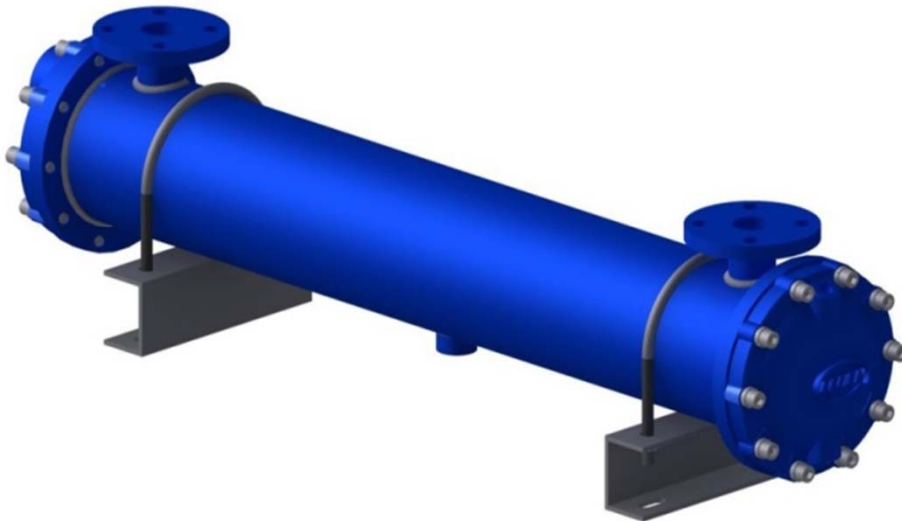




SHELL & TUBE COOLER



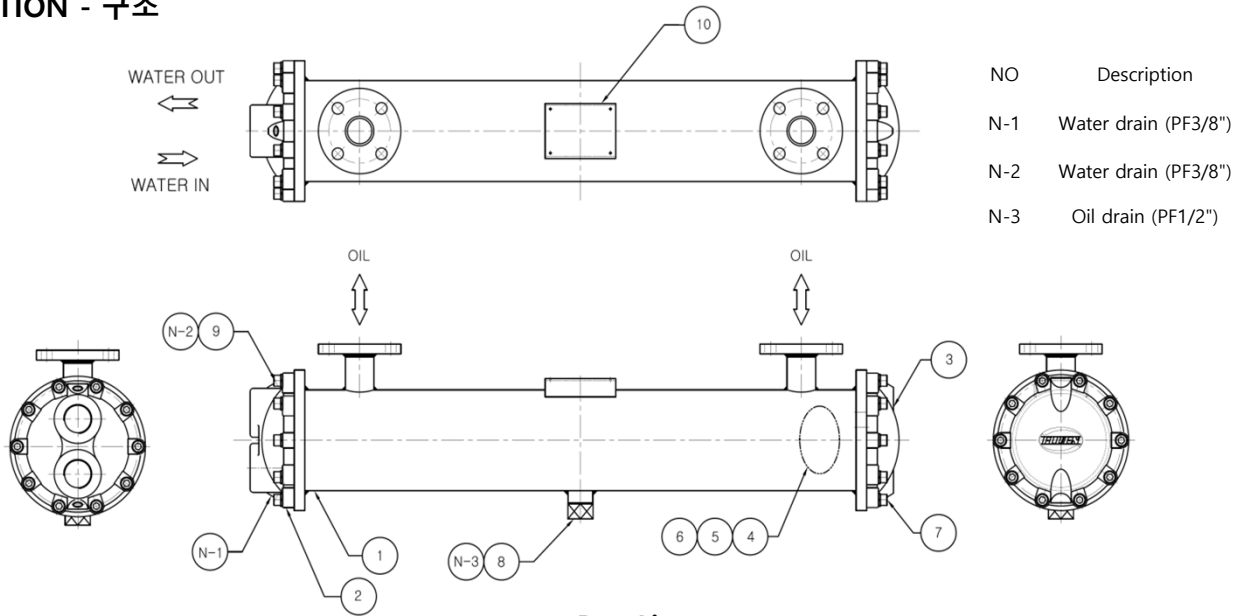
주식회사 플루마

Fluma Co., Ltd.

HYDRAULIC, PNEUMATIC AND ELECTRIC TECHNOLOGY

SHELL & TUBE COOLER - CONSTRUCTION
SHELL & TUBE COOLER - 구조

CONSTRUCTION - 구조



Material List

Part List

Description	Material
Cover	FCD400
SEALS	NBR
TUBES	Copper
FINS	AL
TUBE SHEET	Steel
SHELL	Steel

NO	Description	NO	Description
1	Shell	6	Baffle plate
2	Front cover	7	Wrench bolt
3	Rear cover	8	Plug
4	Tube	9	Plug
5	Flat fin	10	Name plate

Advantage - 장점



- For maximum efficiency, flat fine type is applied on Shell & tube cooler.
- Complete construction for best fluid flow and maximum heat transfer area
- Patent design
- More than 30% increase of heat transfer efficiency compared with bare tube type
- Separation design (Shell and tube ass'y)-optional spec : If tube ass'y is required a clearing, it can be applied)

- Shell & tube cooler의 효율을 극대화 하기 위해 flat fine 적용
- 최상의 유체의 흐름 및 전열면적의 극대화를 위한 완벽한 구조
- 특허 출원
- Bare type shell & tube cooler와 비교시 약 30% 이상의 열 교환 효율 증가
- Shell / tube 번들 분리형 타입 (Option 사양) : tube 번들의 청소 요구시, 적용가능

SHELL & TUBE COOLER - ORDER DESIGNATION
SHELL & TUBE COOLER - 주문코드

SC - 08 - 1040 - F - 65 - 2 N

1 2 3 4 5 6 7

1	SHELL & TUBE COOLER TYPE SHELL & TUBE COOLER 타입
2	SHELL OUT-DIAMETER SHELL 외경
3	TUBE LENGTHS TUBE 거리
4	OIL PORT TYPE OIL PORT 형상
5	OIL PORT SIZE OIL PORT 크기
6	COLD FLUID PASS 냉각유체 PASS
7	WATER PORT SIZE 냉각수 포트 사이즈

◀ SC SERIES = FIXED TYPE COOLER SERIES
 SCD SERIES = FLOATING TYPE COOLER SERIES

◀ 03 = 89.1 06 = 165.2
 04 = 114.3 08 = 216.3
 05 = 139.8 10 = 267.4

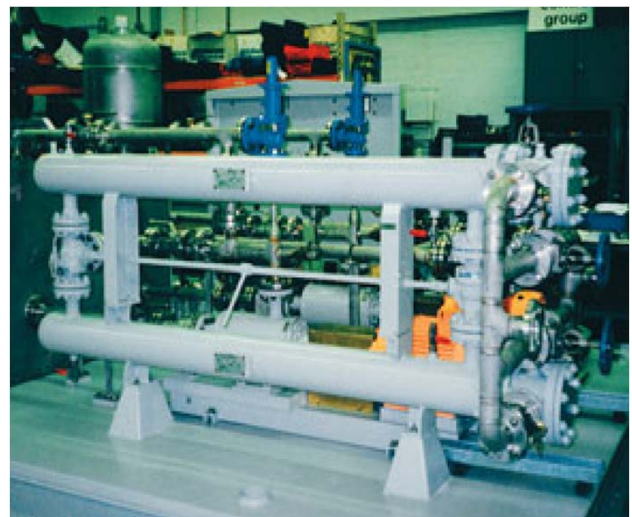
◀ 1150 = LENGTHS OF TUBE SHEET
 (Refer detail specification as next pages.)

◀ F = JIS FLANGE(원형)
 S = JIS FLANGE(사각)
 T = SOCKET PT TAP
 G = SOCKET PF TAP

◀ 20 = ¾" 40 = 1 ½"
 25 = 1" 50 = 2"
 32 = 1 ¼" 65 = 2 ½"

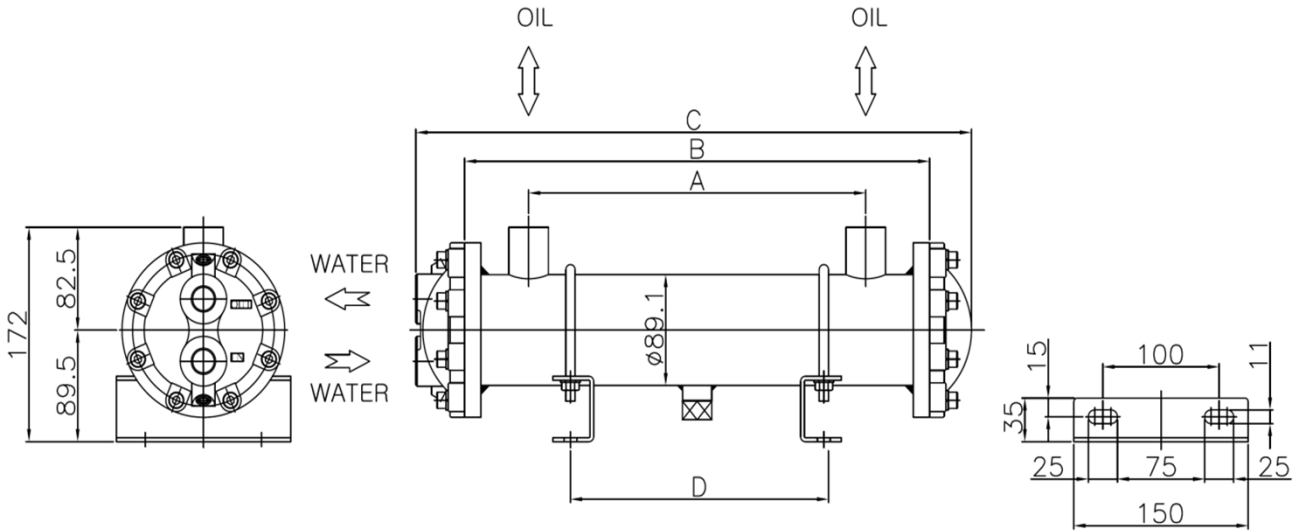
◀ 1 = 1 PASS
 2 = 2 PASS

◀ E : ¾" PT I : 1 ¼" PT M : 2" PT
 F : ¾" PF J : 1 ¾" PF N : 2" PF
 G : 1" PT K : 1 ½" PT O : 2 ½" PT
 H : 1" PF L : 1 ½" PF P : 2 ½"PF



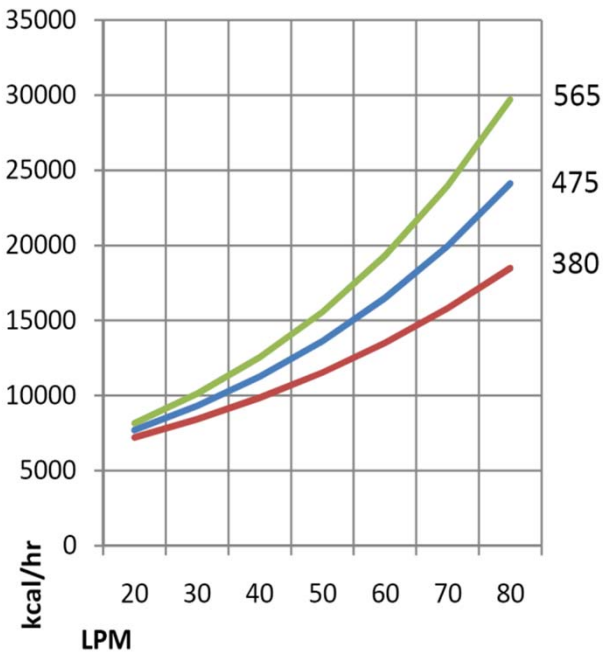
SHELL & TUBE COOLER – DIMENSION
 SHELL & TUBE COOLER – 치수

SC – 03 - FL SERISE



CODE	A	B	C	D	Port size		Max. Flow rate	Heat capacity	Heating surface area	Max. Pressure difference	Weight (kg)
					OIL	WATER					
SC-03-380-G-25-2	270	380	458	220	25A	20A	100	11	0.5	0.45	11
SC-03-475-G-25-2	365	475	553	315	25A	20A	100	13	0.6	0.47	13
SC-03-565-G-25-2	455	565	643	405	25A	20A	100	15	0.7	0.49	15

PERFORMANCE DIAGRAM
 성능 곡선 표



TECHNICAL DATA
 기술 자료

	Oil port	Water port
Max. Operating pressure	15bar	10bar
Test pressure	23bar	15bar
Max. Operating Temp	120°C	100°C

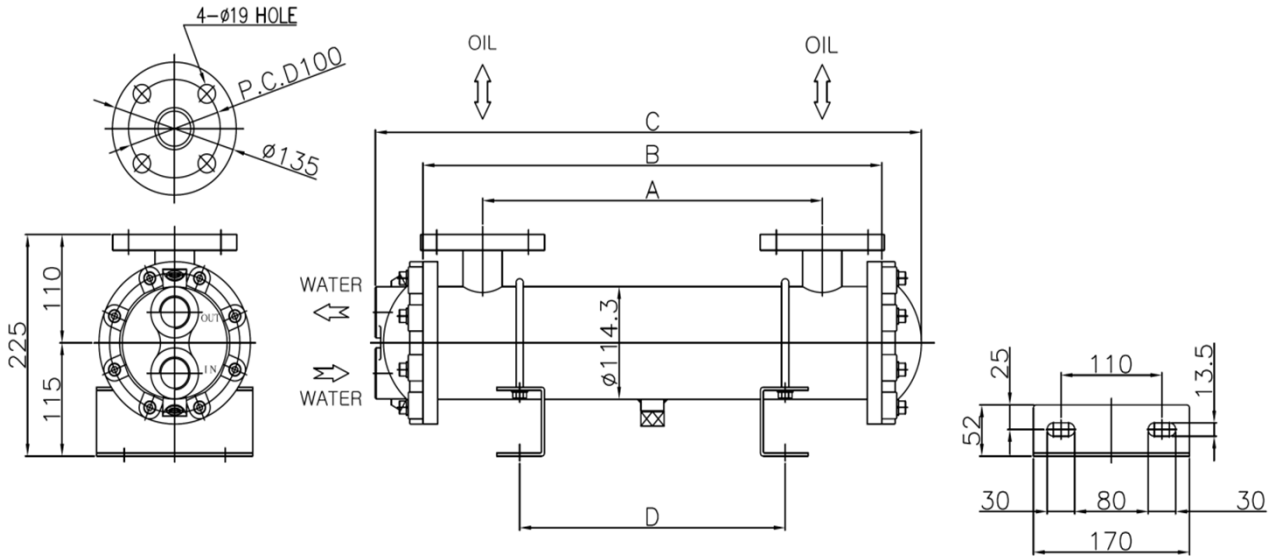
OIL	ISO VG 32
Oil inlet temp	65°C
Water inlet temp	32°C
Oil : Water ratio	1 : 0.8

CORRECTION FACTOR
 보정 계수

cSt	22	30	46	68	100	150	220
f	0.6	1	1.5	2.3	3.5	5	7

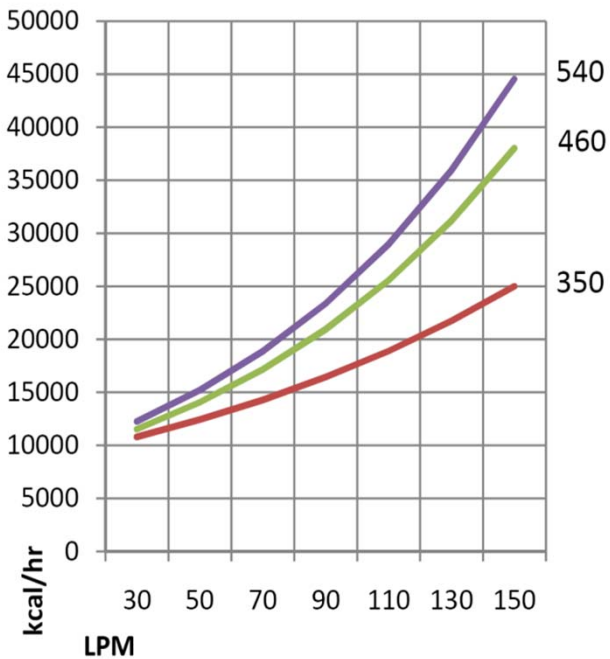
SHELL & TUBE COOLER – DIMENSION
 SHELL & TUBE COOLER – 치수

SC – 04 - FL SERISE



CODE	A	B	C	D	Port size		Max. Flow rate	Heat capacity	Heating surface area	Max. Pressure difference	Weight (kg)
					OIL	WATER					
SC-04-350-F-32-2	220	350	445	140	32A	25A	180	19	0.8	0.55	17
SC-04-460-F-32-2	330	460	555	250	32A	25A	180	24	1.1	0.57	20
SC-04-540-F-32-2	410	540	635	330	32A	25A	180	27	1.3	0.59	23

PERFORMANCE DIAGRAM
 성능 곡선 표



TECHNICAL DATA
 기술 자료

	Oil port	Water port
Max. Operating pressure	15bar	10bar
Test pressure	23bar	15bar
Max. Operating Temp	120°C	100°C

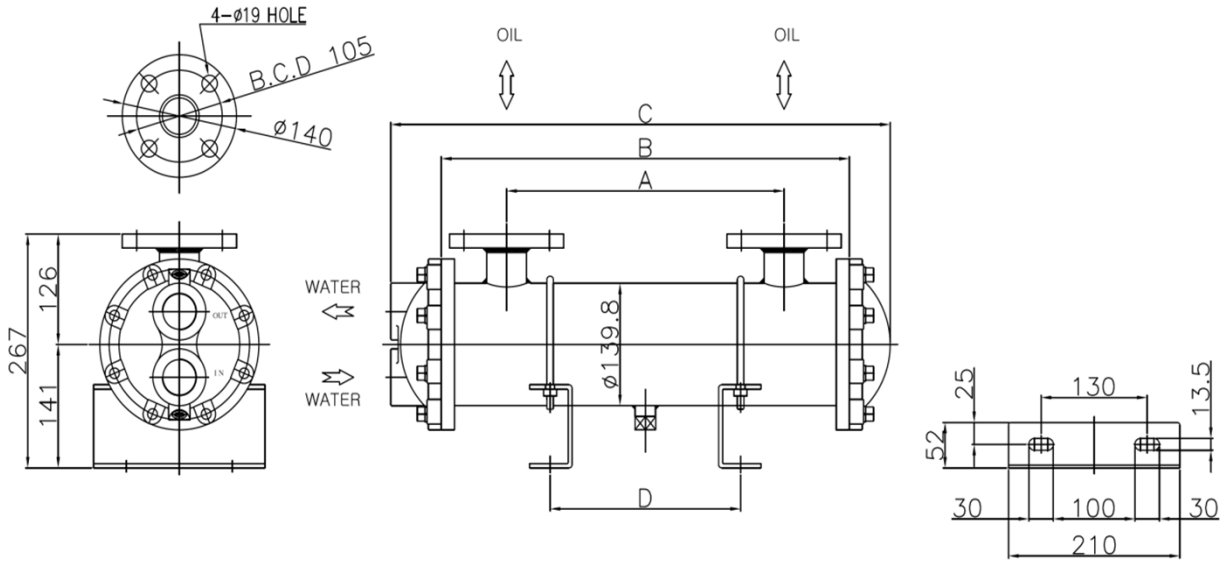
OIL	ISO VG 32
Oil inlet temp	65°C
Water inlet temp	32°C
Oil : Water ratio	1 : 0.8

CORRECTION FACTOR
 보정 계수

cSt	22	30	46	68	100	150	220
f	0.6	1	1.5	2.3	3.5	5	7

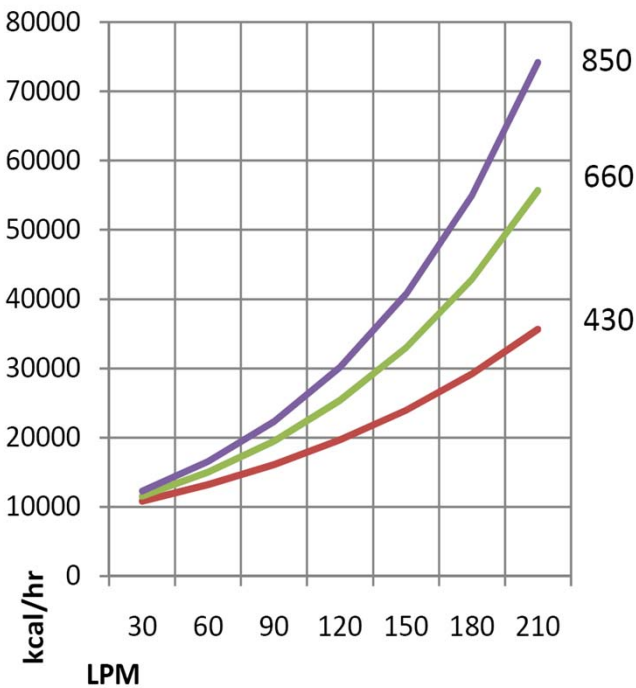
SHELL & TUBE COOLER – DIMENSION
 SHELL & TUBE COOLER – 치수

SC – 05 - FL SERISE



CODE	A	B	C	D	Port size		Max. Flow rate	Heat capacity	Heating surface area a	Max. Pressure difference	Weight (kg)
					OIL	WATER					
SC-05-430-F-40-2	270	430	542	170	40A	32A	240	28	1.5	0.63	27
SC-05-660-F-40-2	500	660	772	400	40A	32A	240	38	2.8	0.67	35
SC-05-850-F-40-2	690	850	962	590	40A	32A	240	47	3.0	0.71	43

PERFORMANCE DIAGRAM
 성능 곡선 표



TECHNICAL DATA
 기술 자료

	Oil port	Water port
Max. Operating pressure	15bar	10bar
Test pressure	23bar	15bar
Max. Operating Temp	120°C	100°C

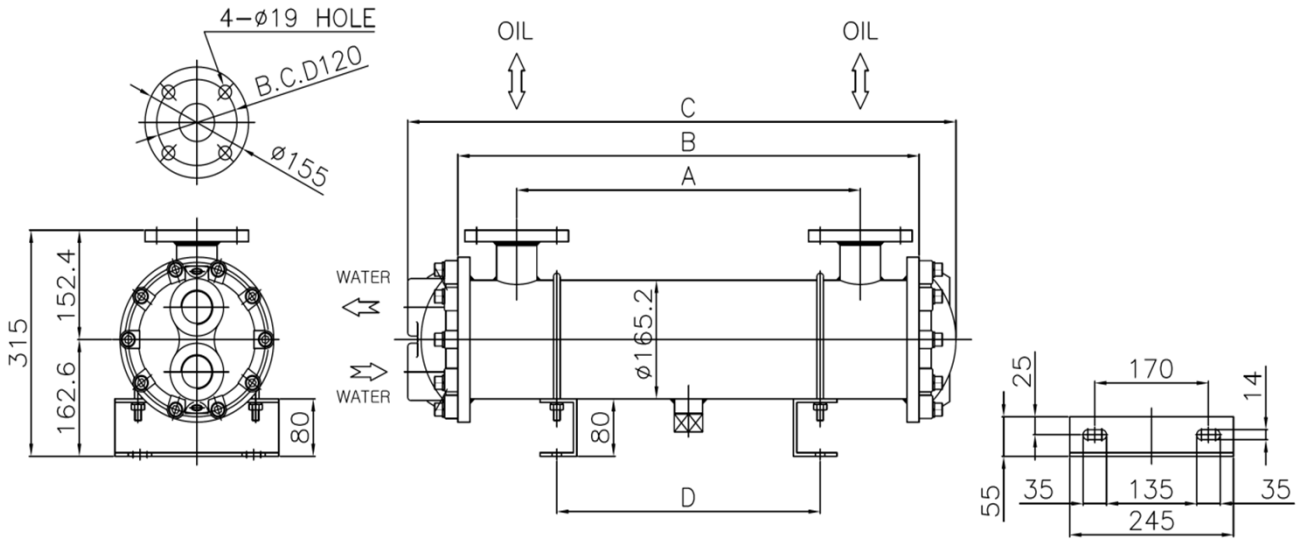
OIL	ISO VG 32
Oil inlet temp	65°C
Water inlet temp	32°C
Oil : Water ratio	1 : 0.8

CORRECTION FACTOR
 보정 계수

cSt	22	30	46	68	100	150	220
f	0.6	1	1.5	2.3	3.5	5	7

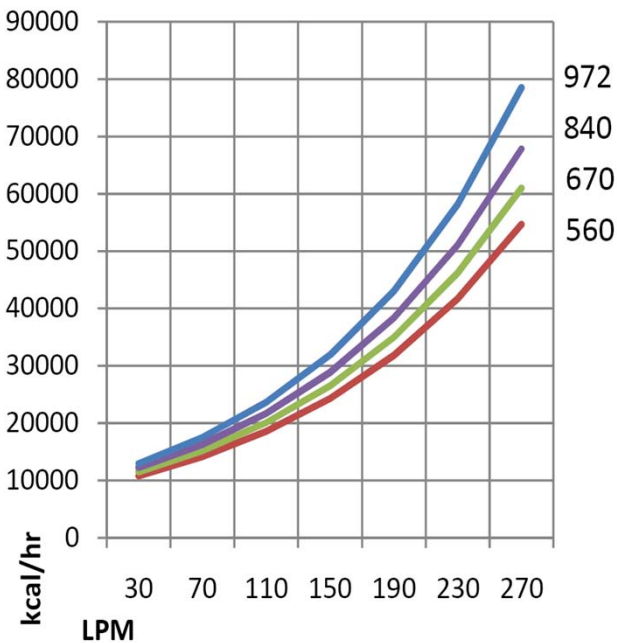
SHELL & TUBE COOLER – DIMENSION
 SHELL & TUBE COOLER – 치수

SC – 06 - FL SERISE



CODE	A	B	C	D	Port size		Max. Flow rate	Heat capacity	Heating surface area	Max. Pressure difference	Weight (kg)
					OIL	WATER					
SC-06-560-F-50-2	384	560	690	265	50A	40A	300	49	3.6	0.72	63
SC-06-670-F-50-2	494	670	800	375	50A	40A	300	54	4.6	0.74	72
SC-06-840-F-50-2	664	840	970	545	50A	40A	300	59	5.2	0.78	75
SC-06-972-F-50-2	796	972	1102	677	50A	40A	300	68	6.3	0.81	83

PERFORMANCE DIAGRAM
 성능 곡선 표



TECHNICAL DATA
 기술 자료

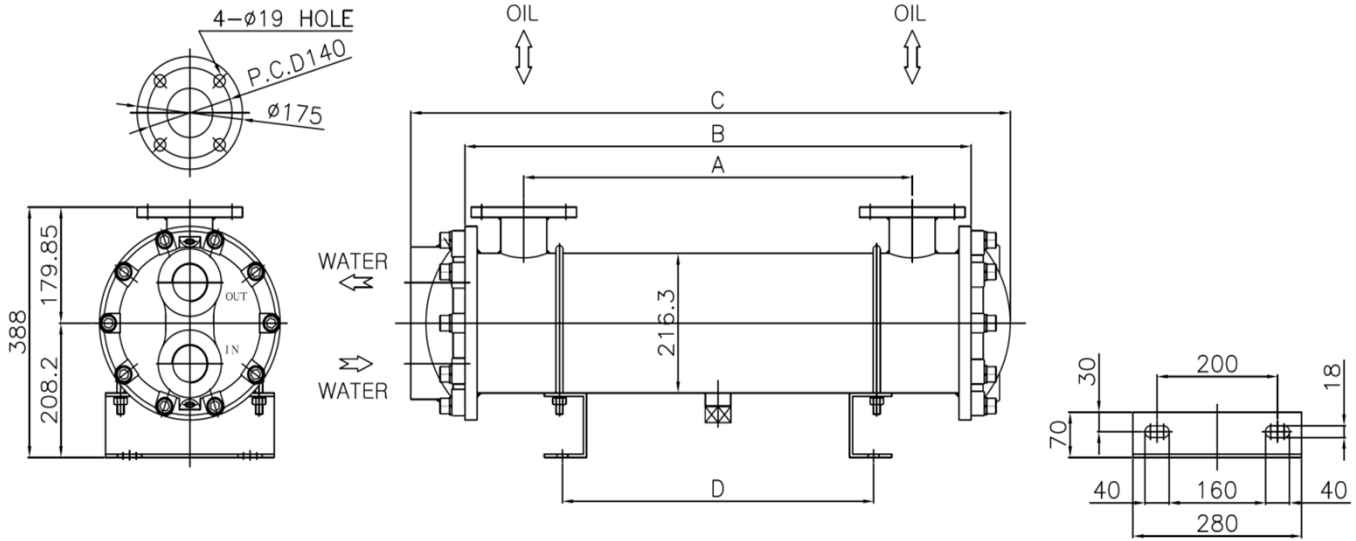
	Oil port	Water port
Max. Operating pressure	15bar	10bar
Test pressure	23bar	15bar
Max. Operating Temp	120°C	100°C
OIL	ISO VG 32	
Oil inlet temp	65°C	
Water inlet temp	32°C	
Oil : Water ratio	1 : 0.8	

CORRECTION FACTOR
 보정 계수

cSt	22	30	46	68	100	150	220
f	0.6	1	1.5	2.3	3.5	5	7

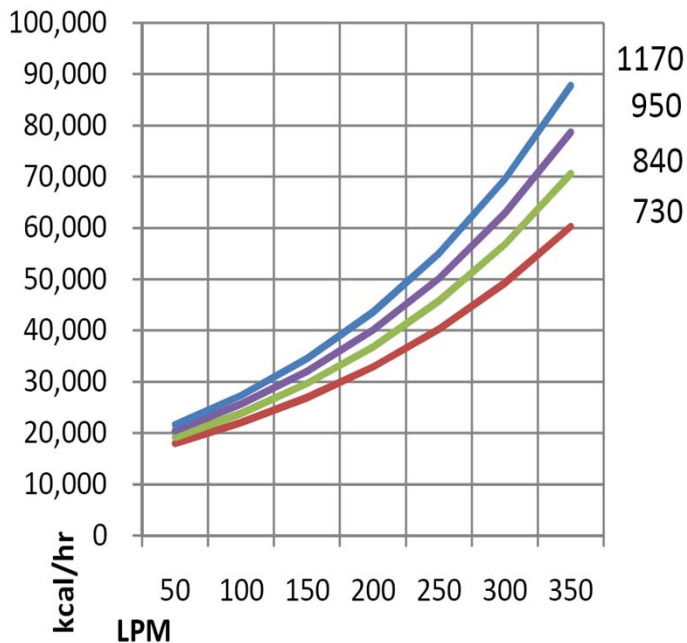
SHELL & TUBE COOLER – DIMENSION
SHELL & TUBE COOLER – 치수

SC – 08 - FL SERISE



CODE	A	B	C	D	Port size		Max. Flow rate	Heat capacity	Heating surface area	Max. Pressure difference	Weight (kg)
					OIL	WATER					
SC-08- 730-F-65-2	535	730	885	405	65A	50A	450	70	6.7	0.80	121
SC-08- 840-F-65-2	645	840	995	515	65A	50A	450	82	8.9	0.90	125
SC-08- 950-F-65-2	755	950	1105	625	65A	50A	450	91	11.1	1.00	134
SC-08-1170-F-65-2	975	1170	1325	845	65A	50A	450	102	12.1	1.20	140

PERFORMANCE DIAGRAM
성능 곡선 표



TECHNICAL DATA
기술 자료

	Oil port	Water port
Max. Operating pressure	15bar	10bar
Test pressure	23bar	15bar
Max. Operating Temp	120°C	100°C

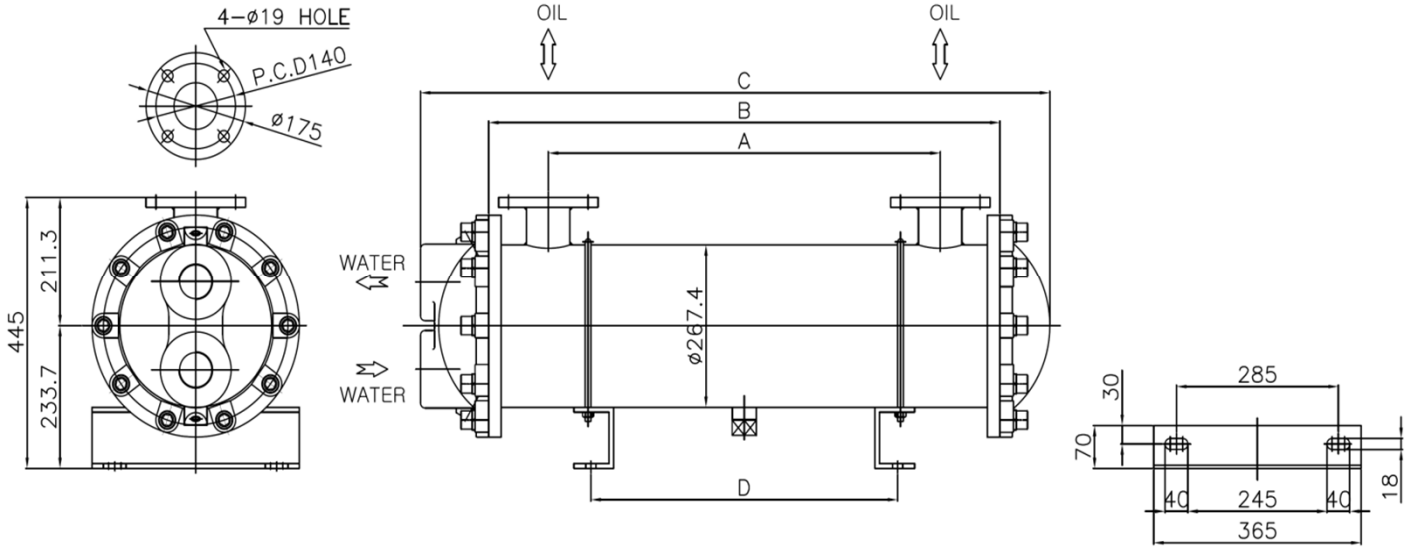
OIL	ISO VG 32
Oil inlet temp	65°C
Water inlet temp	32°C
Oil : Water ratio	1 : 0.8

CORRECTION FACTOR
보정 계수

cSt	22	30	46	68	100	150	220
f	0.6	1	1.5	2.3	3.5	5	7

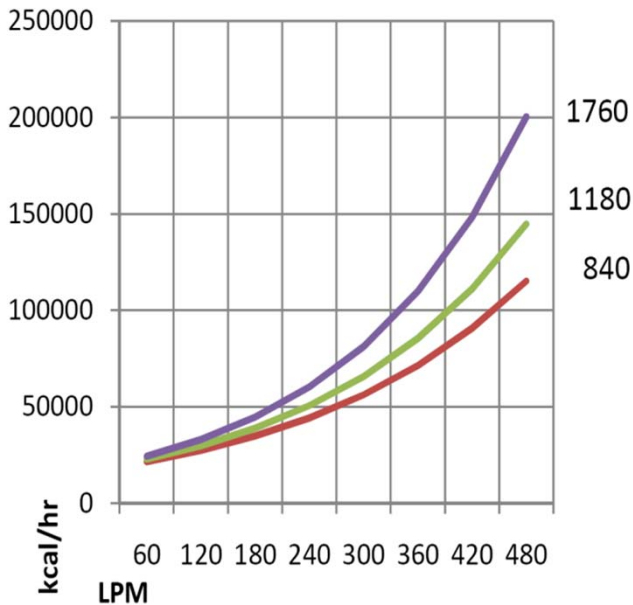
SHELL & TUBE COOLER – DIMENSION
 SHELL & TUBE COOLER – 치수

SC – 10 - FL SERISE



CODE	A	B	C	D	Port size		Max. Flow rate	Heat capacity	Heating surface area	Max. Pressure difference	Weight (kg)
					OIL	WATER					
SC-10-840-F-65-2	630	840	1048	480	65A	50A	600	106	12.2	0.90	150
SC-10-1180-F-65-2	970	1180	1388	820	65A	50A	600	129	17.6	1.20	175
SC-10-1760-F-65-2	1550	1760	1968	1400	65A	50A	600	173	26.4	1.50	215

PERFORMANCE DIAGRAM
 성능 곡선 표



TECHNICAL DATA
 기술 자료

	Oil port	Water port
Max. Operating pressure	15bar	10bar
Test pressure	23bar	15bar
Max. Operating Temp	120°C	100°C

OIL	ISO VG 32
Oil inlet temp	65°C
Water inlet temp	32°C
Oil : Water ratio	1 : 0.8

CORRECTION FACTOR
 보정 계수

cSt	22	30	46	68	100	150	220
f	0.6	1	1.5	2.3	3.5	5	7

Fluma Co., Ltd.



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