

PERFORMANCE&ENDURANCE TEST

- 1) 가열시험 : LEAK량은 10cc/min 이하일것
1-1) 제유상태
8.0bar의 AIR를 INLET PORT 11/12에 가압후 유지시
=> PORT 21/22에 압력 발생 될것
1-2) PISTON STROKE 시
1-2-1) INLET PORT(11/12)에 8bar 가압,
OUTLET PRESSURE가 0.6bar로 떨어지자 피스톤 작동후 그상태
=> OUTLET PORT 21/22에 압력이 균화되자 유지해 것.
1-2-2) INLET PORT(11/12)에 8bar가압, 피스톤은 FULL STROKE 후 그상태
=> LEAK량 규격치(10cc/min) 만족할 것.
- 2) 작동범위 시험
STROKE 1.0 ± 0.5(mm)에서 PORT21에서 출력 형성될 것
- 3) 작동범위 시험
INLET PORT에 8bar를 가한후, PORT 21의 압력이 0.55bar 떨어지자 피스톤 STROKE 시키
=>PORT 21의 압력이 0.55bar 이하에서 PORT22에 압력이 형성되야 한다.
- 4) 차압 시험
시험 1과 시험2의 차압은 전 구간에서 0.1±0.1 Bar 이하 일 것.

5) VALVE 특성

	STROKE	PRESSURE	FORCE	비 고
5-2-1	1 mm ϕ	1.2 $\pm$ 0.3Bar	(41 $\pm$ 8Kg)	
5-2-2	2.5 mm ϕ	2.5 $\pm$ 0.4Bar	(65 $\pm$ 10Kg)	
5-2-3	4.5 mm ϕ	5.0 $\pm$ 0.6Bar	(115 $\pm$ 20Kg)	

- 6) 최대변위 시험
피스톤 FULL STROKE시 전체 작동변위는 MAX.12 mm이할 것
7) 내구시험(BASIC VALVE ASSEMBLY 기준)

	온도(°C)	압력(Bar)	Cycle	오구사항
1	20	4.0	300,000	
2	20	6.0	50,000	-시험후 기밀성을
3	20	8.5	20,000	만족할 것
4	-40	4.0	90,000	
5	-40	6.0	15,000	-내구시험후 성능
6	-40	8.5	15,000	GRAPH3D 분석한
7	20	4.0	300,000	변곡 없을 것
8	20	6.0	50,000	
9	20	8.5	40,000	
10	80	4.0	90,000	
11	80	6.0	25,000	
12	80	8.5	10,000	
	合計		000,000	

- 8) 염수분무 시험
- | | | | |
|------|--------|---------|-------------------------|
| 염농도 | 온도 | 분무시간 | 96시간 이내에 눈에 띄는 부식 없을 것. |
| 5±1% | 35±2°C | 96시간속분무 | |

PERFORMANCE&ENDURANCE TEST

- 1) LEAK TEST : THE AMOUNT OF LEAK SHOULD BE UNDER 10CC/MIN
 - 1-1) FREE CONDITION
 - APPLY 8.0 BAR PRESSURE TO INLET PORT 11/12 AND THEN HOLD IT
=> NO PRESSURE GENERATION AT PORT 21/22
 - 1-2) PISTON STROKE
 - 1-2-1) APPLY 8BAR PRESSURE TO INLET PORT(11/12),
OPERATE PISTON UNTIL OUTLET PRESSURE REACHES 0.6BAR PRESSURE
AND THEN HOLD PISTON .
=> PRESSURE AT OUTLET PORT 21/22 MUST KEEP STABLE.
 - 1-2-2)APPLY 8.0BAR PRESSURE TO INLET PORT(11/12)
AFTER APPLYING FULL STROKE OF PISTON,
AMOUNT OF LEAK SHOULD BE SATISFIED WITH REGULATION(10cc/min).
- 2) OPERATION DISPLACEMENT TEST
AT STROKE $1.0 \pm 0.5(\text{mm})$, PRESSURE AT PORT21 SHOULD MAKE OUTPUT.
- 3) OPERATING PRESSURE TEST
AFTER APPLYING 8BAR TO INLET PORT,
OPERATE PISTON UNTIL PORT 21 PRESSURE REACHES 0.55BAR.
UNDER 0.55BAR AT PORT 21, PORT 22 SHOULD MAKE PRESSURE.
- 4) DIFFERENCE OF PRESSURE TEST
THE PRESSURE DIFFERENCE OF CIRCUIT 1 AND CIRCUIT 2 SHOULD BE $0.1 \pm 0.1 \text{ Bar}$.

5) VALVE CHARACTERISTIC

- 5-1) WHEN CIRCUIT "1" FAIL, THE OUTPUT OF CIRCUIT "2" REACHES 8BAR WITHIN MAX.12mm
5-2) NO FAIL(AFTER MAKING PRESSURE)

	STROKE	PRESSURE	FORCE	REMARKS
5-2-1	1 mm	1.2±0.3Bar	(41±8Kg)	
5-2-2	2.5 mm	2.5±0.4Bar	(65±10Kg)	
5-2-3	4.5 mm	5.0±0.6Bar	(115±20Kg)	

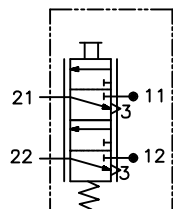
- 6) MAXIMUM DISPLACEMENT TEST
ON OPERATING PISTON, MAXIMUM DISPLACEMENT SHOULD BE UNDER 12mm.
7) ENDURANCE TEST (ONLY BASIC VALVE ASSEMBLY)

TEMP.(°C)	PRES.(Bar)	Cycle	REQUIREMENT
1	20	4.0	300,000
2	20	6.0	20,000
3	20	8.5	20,000
4	40	4.0	90,000
5	40	6.0	15,000
6	40	8.5	10,000
7	20	4.0	300,000
8	20	6.0	20,000
9	20	8.5	40,000
10	80	4.0	90,000
11	80	6.0	25,000
12	80	8.5	25,000
TOTAL			1,000,000

- ### 8) SALT SPRAY TEST

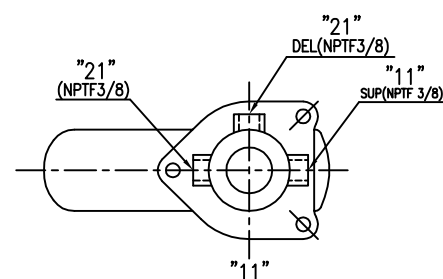
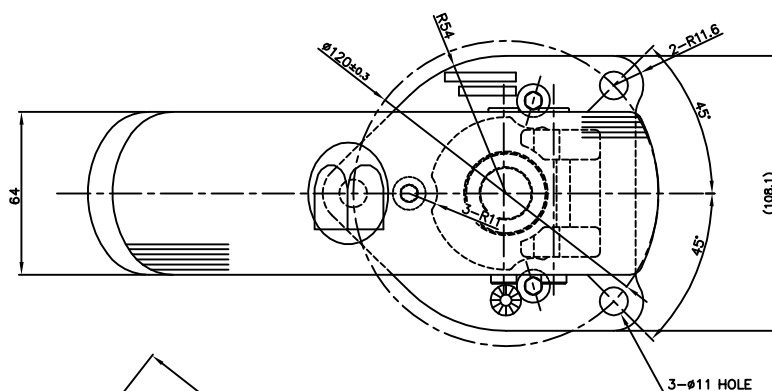
CONSISTENCY OF SALT	TEMPERATURE	SPRAY TIME
5±1%	35±2 °C	CONTINUOUS SPRAY FOR 96H

NOT A SHARP CORROSION IN 96 Hr

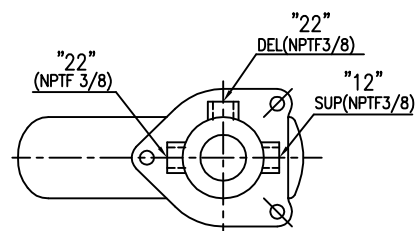


DESIGNATION OF CONNECTION THREADS.

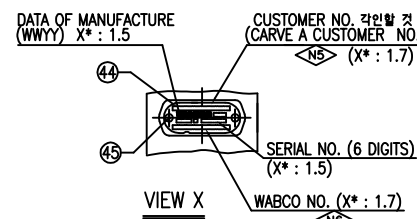
- 11 - POWER INPUT CIRCUIT "1"
12 - POWER INPUT CIRCUIT "2"
21 - POWER OUTPUT CIRCUIT "1"
22 - POWER OUTPUT CIRCUIT "2"
3 - CONNECTION ATMOSPHERE



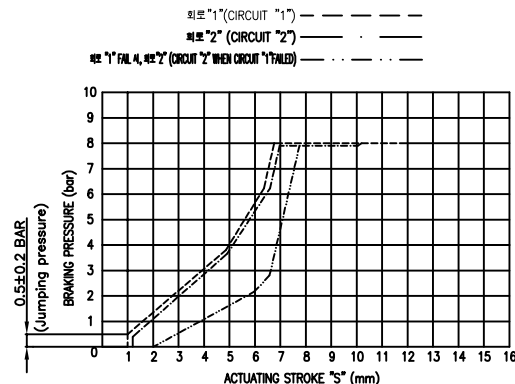
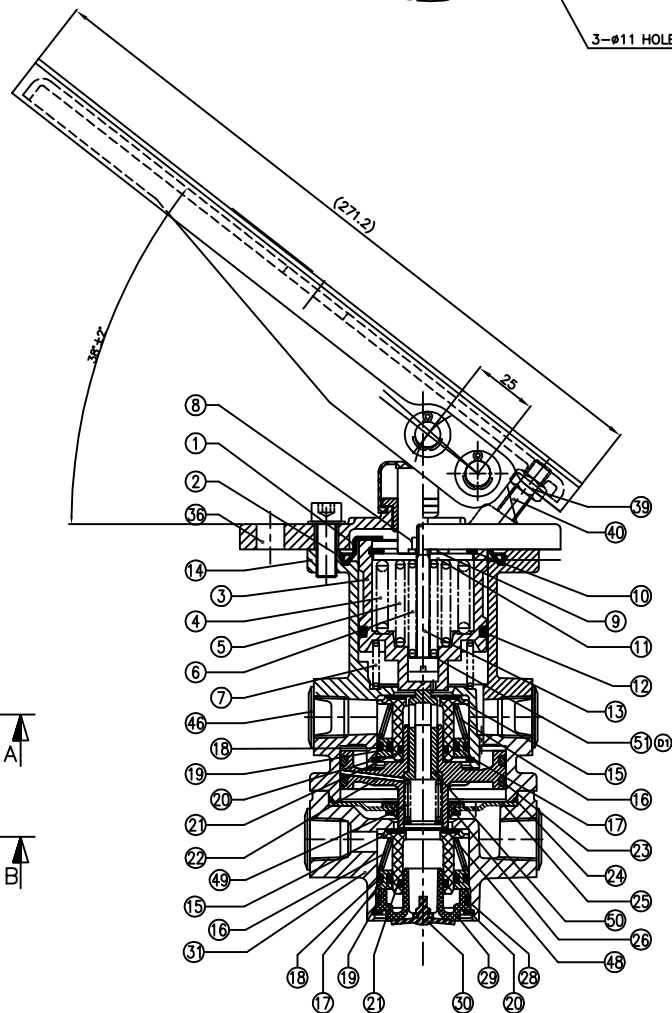
SECTION A-A
(N/S)



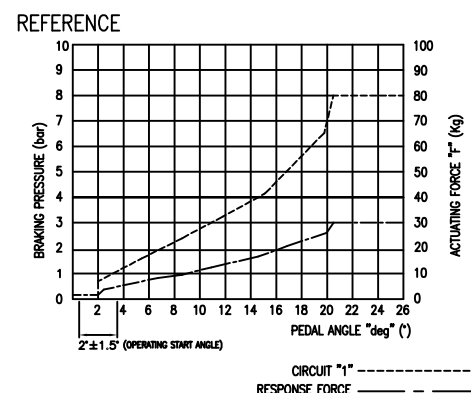
SECTION B-B
(N/S)



X* : HEIGHT OF LETTERS



BASIC V/V CHARACTERISTIC GRAPH (WITHOUT PEDAL BRACKET ASS'Y)



CHARACTERISTIC GRAPH
(WITH PEDAL)

| NOTE

- N1 성능 특성곡선을 만족 함 것.
N2 MAX. OPERATING PRESSURE 9.5 bar
N3 MAX. PRESSURE 10 bar
N4 TEMPERATURE RANGE: -40 ~ +80 °C
N5 CUSTOMER NO.: 59310-7C100
N6 WABCO NO.: DF10503101A0
N7 O-RING 광학용 및 SLIDING에 RUBBER GREASE를 도포함것
N8 TORQUE 160~200kgf.cm (3~Mx1.25)
N9 TORQUE 50~80kgf.cm (4~Mx1.0)

NOTE

- N1 BE SATISFIED WITH BASIC V/V CHARACTERISTIC GRAPH
N2 MAX. OPERATING PRESSURE 9.5 bar
N3 MAX. PRESSURE 10 bar
N4 TEMPERATURE RANGE: -40 ~ +80 °C
N5 CUSTOMER NO.: 59310-7C100
N6 WABCO NO.: DF10503101A0
N7 APPLY RUBBER GREASE TO O-RING ASSEMBLED PART & SLIDING PART
N8 TORQUE 160~200kgf.cm (3-M6x1.25)
N9 TORQUE 50~80kgf.cm (4-M6x1.0)

(9)	1	WISHER	DF192-001-01				51	
		PISTON ROD	DF416-001-00				50	
		1 COMPRESSOR SPRING	DF142-001-00				48	
		1 CRCLP	DF115-003-00				49	
		2 WISHER J	DF255-001-01				47	
		6 PROTECTIVE PLUG	DF618-001-01				46	
		2 RIVET	DAZ71-001-01				45	
(C1)		1 NAME PLATE	DF380-001-00				44	
		1 PDL RUBBER	DF321-030-00				43	
		4 HEXBOLTS/WASHER	DF162-003-01				42	
		1 CLAMPING P/SEAL	DF261-001-01				41	
		1 STOPPER BOLT	DF240-001-01				40	
		1 STOPPER NUT	DF241-001-01				39	
		1 PEDAL	DF311-030-00				38	
		1 CLAMPING PISTON	DF360-030-00				37	
		1 COVER ASSY	DF210-030-00				36	
		1 ROLLER	DF257-006-01				35	
		2 COLLAR I	DF252-001-01				34	
		2 PILOT PIN	DF250-006-01				33	
		2 PIN CUTTER	DF256-001-01				32	
		1 HOUSING BASE	DF159-033-00				31	
		1 EXHAUST COVER	DF109-030-00				30	
		1 EXHAUST SOCKET	DF130-030-00				29	
		1 O-RING	DF141-001-06				28	
		3 BOLT & WASHER	DF162-030-00				27	
		1 PLATE SEAL	DF156-001-01				26	
		1 GUIDE PLATE	DF158-002-01				25	
		1 O-RING	DF141-001-05				24	
		1 O-RING	DF143-001-04				23	
		1 POWER SPRING	DF153-030-00				22	
		2 O-RING	D0189-001-01				21	
		2 GROUP	DF151-001-01				20	
		2 O-RING	DF141-001-03				19	
		2 O-RING	DF141-001-02				18	
		2 RING PISTON	DF146-001-01				17	
		2 COMP. SPRING 3	DF147-001-01				16	
		2 GUIDE PISTON ASSY	DF144-002-01				15	
		1 HOUSING UPPER	DF143-031-00				14	
		1 GUIDE ROD BOLT	DF170-001-01				13	
		1 O-RING	DF150-001-01				12	
		1 COVER PLATE 2	DF134-003-01				11	
		1 CRCLP	DF115-002-01				10	
		1 WISHER J	DF181-001-01				9	
		1 NUT	DF171-001-01				8	
		1 COMP. SPRING 2	DF168-001-02				7	
		1 COMP. SPRING 5	DF168-006-05				6	
		1 COMP. SPRING 4	DF168-006-06				5	
		1 COMP. SPRING 1	DF168-006-02				4	
		1 BUSI PISTON	DF139-006-00				3	
		1 RETAINING RING	DF166-001-03				2	
		1 COVER PLATE 1	DF134-002-01				1	
(C2)								
SEP	NO.	NAME	QTY	UNIT	PRICE	AMT	TOTL	REF
TOTAL \$1,380.00								
REMARKS: PREPARATION OF DATA								
REMARKS: PART NO.								

[illegible]