

Testing and Commissioning Checklist for Fire Hydrant and Hose Reel Installation

I. REFERENCE

Project: FSD Ref.:

Type of Building: *Domestic/Industrial/Godown/Others

Address:

FSI Drawing Ref.

The date of initial building plan submission to Building Authority

*Delete whichever not applicable

	Yes	No	N/A	Remarks
II. FSI DRAWINGS AGAINST BUILDING PLANS				
FSD File Ref.				
2.1 Check nos. and locations of:				
2.1.1 Fire service inlets	[ ]	[ ]	[ ]	.....
2.1.2 Fire hydrants and hose reels	[ ]	[ ]	[ ]	.....
2.1.3 Fixed fire pumps	[ ]	[ ]	[ ]	.....
2.1.4 Intermediate booster pumps	[ ]	[ ]	[ ]	.....
2.1.5 Water tank and capacity	[ ]	[ ]	[ ]	.....
III. PLUMBING LINE DIAGRAM				
3.1 CHECK:				
3.1.1 Pippings are suitably connected to the fire pumps, fire hydrants, hose reels and fire service inlets.	[ ]	[ ]	[ ]	.....
3.1.2 Size of the rising mains are correct.	[ ]	[ ]	[ ]	.....
3.1.3 Size of the inter-connection header pipe(s) for fire service inlets is correct.	[ ]	[ ]	[ ]	.....
3.1.4 By-pass pippings for intermediate booster pumps.	[ ]	[ ]	[ ]	.....
3.1.5 FS appliance to be provided by FSD to test the system. (to be confirmed by FSD)	[ ]	[ ]	[ ]	.....
IV. ON SITE INSPECTION				
4.1 FIRE HYDRANT				
4.1.1 Outlets are of: Male round thread [] or Female instantaneous []				
4.1.2 Adaptable to FSD equipment.	[ ]	[ ]	[ ]	.....
4.1.3 Individually controlled by wheel operated screw valve designed to open by counter-clockwise rotation.	[ ]	[ ]	[ ]	.....
4.1.4 The direction of opening engraved in both English and Chinese on the wheel of the valve.	[ ]	[ ]	[ ]	.....
	Yes	No	N/A	Remarks
4.1.5 Centre of coupling not less than 800 mm nor more than 1 200 mm above finished floor level.	[ ]	[ ]	[ ]	.....
4.1.6 Prominently sited [] or Recessed []				

4.1.7	All round clearance to permit free use.	[ ]	[ ]	[ ]	.....
4.1.8	Not obstructing any door opening, or any exit route.	[ ]	[ ]	[ ]	.....
4.1.9	Not to be concealed by the leaves of an adjacent door when that door is opened.	[ ]	[ ]	[ ]	.....
4.1.10	Water supply is fed:				
	By gravity [ ]				.....
	From fixed fire pump [ ]				.....
4.2	HOSE REEL				
4.2.1	Hose reel drum is painted in red.	[ ]	[ ]	[ ]	.....
4.2.2	The drum is not less than 150 mm in diameter.	[ ]	[ ]	[ ]	.....
4.2.3	Internal bore of tubing is not less than 19 mm diameter.	[ ]	[ ]	[ ]	.....
4.2.4	Length of hose reel is not exceeding 30 metres in length.	[ ]	[ ]	[ ]	.....
4.2.5	Every part of the building can be reached by a nozzle.	[ ]	[ ]	[ ]	.....
4.2.6	Capable of projecting a 6-metre jet.	[ ]	[ ]	[ ]	.....
4.2.7	Orifice of nozzle is 4.5 mm.	[ ]	[ ]	[ ]	.....
4.2.8	Nozzle is fitted with simple two-way on/off valve and the valve is not spring loaded.	[ ]	[ ]	[ ]	.....
4.2.9	Control valves are of gate type or of simple two-way ball type.	[ ]	[ ]	[ ]	.....
4.2.10	Gate valves are closed by clockwise rotation.	[ ]	[ ]	[ ]	.....
4.2.11	Rising mains and associated pipework are not less than 40 mm nominal bore.	[ ]	[ ]	[ ]	.....
4.2.12	Pipes feeding individual hose reel are not less than 25 mm nominal bore.	[ ]	[ ]	[ ]	.....
4.2.13	Control valves are adjacent to the nozzles.	[ ]	[ ]	[ ]	.....
4.2.14	Nozzle and control valves are not more than 1 350 mm from the finished floor level.	[ ]	[ ]	[ ]	.....
4.2.15	Nozzle is housed in a glass-fronted cabinet secured under lock and key.	[ ]	[ ]	[ ]	.....
4.2.16	Striker is provided in the vicinity of the cabinet.	[ ]	[ ]	[ ]	.....
4.2.17	Suitable guide ring is provided to permit easy withdrawal of the hose reel tubing.	[ ]	[ ]	[ ]	.....
4.2.18	An operation instruction is affixed prominently adjacent to each hose reel.	[ ]	[ ]	[ ]	.....
		Yes	No	N/A	Remarks
4.2.19	The notice is clearly marked with the standard wordings in English and Chinese characters of at least 5 mm high in red letters on white background or vice versa.	[ ]	[ ]	[ ]	.....
4.2.20	Manual fire alarm call points are sited at a prominent position near the hose reels.	[ ]	[ ]	[ ]	.....

4.2.21	The manual fire alarm call points are not more than 1 200 mm above the finished floor level.	[ ]	[ ]	[ ]	.....
4.2.22	Upon actuation of any manual fire alarm call point in the building, the fixed fire pump shall come into operation regardless of the zoning of the fire alarm call point.	[ ]	[ ]	[ ]	.....
4.2.23	Door fitted to the hose reel cabinet.	[ ]	[ ]	[ ]	.....
4.2.23.1	Such doors cause no undue obstruction and no interference with any exit point when in open position.	[ ]	[ ]	[ ]	.....
4.2.23.2	Such doors cause no obstruction to the hose being run out in either directions.	[ ]	[ ]	[ ]	.....
4.2.23.3	Such doors bear the words “FIRE HOSE REEL” (消防喉轆) of at least 50 mm high.	[ ]	[ ]	[ ]	.....
4.2.23.4	No locking device is fitted to such doors.	[ ]	[ ]	[ ]	.....
4.2.23.5	Control valves and nozzles are sited in a discernible and accessible position of not more than 500 mm from the surface of the doors.	[ ]	[ ]	[ ]	.....
4.2.23.6	Operation instruction notice is affixed immediately below the words “FIRE HOSE REEL” on the outer surface of the door.	[ ]	[ ]	[ ]	.....
4.2.24	Hose reel of swinging cradle type.	[ ]	[ ]	[ ]	.....
4.2.24.1	When not in use the outer face of the reel is flush with the wall.	[ ]	[ ]	[ ]	.....
4.2.24.2	When required for use the cradle can be swung freely into the corridor or passage.	[ ]	[ ]	[ ]	.....
4.3	SUPPLY TANK				
4.3.1	Correct location and adequate capacity of water tank.	[ ]	[ ]	[ ]	.....
4.3.2	Refilling system is in efficient working order.	[ ]	[ ]	[ ]	.....
4.3.3	Fire Service Completion Advice issued.	[ ]	[ ]	[ ]	.....
4.4	FIXED FIRE PUMP				
		Yes	No	N/A	Remarks
4.4.1	Mode of power for driving the pump is:				
4.4.1.1	Electricity [] or				
4.4.2	Secondary power supply provided.	[ ]	[ ]	[ ]	.....
4.4.2.1	If no, diesel engine driven standby pump provided.	[ ]	[ ]	[ ]	.....

4.4.3	Where the motive power for any pump is not electricity, alternative means of starting the pump manually, in addition to manual fire alarm call points, are provided.	☐	☐	☐	.....
4.4.4	Starting instructions for diesel driven pump are prominently displayed in the pump room.	☐	☐	☐	.....
4.4.5	No automatic means of stopping the pump, other than by switching off at the pump control installed near the pump.	☐	☐	☐	.....
4.4.6	Manual fire alarm call points are wired for starting the pump.	☐	☐	☐	.....
4.4.7	The pumps are duplicated for duty and standby use.	☐	☐	☐	.....
4.4.8	The fire pump starters are wired through a selector switch for duty and standby pump selection.	☐	☐	☐	.....
4.4.9	The standby pump is energized within 15 seconds upon failure of the duty pump.	☐	☐	☐	.....
4.4.10	The motor/engine for the pump is rated to give 20% more power in addition to the hydraulic power required for the rated flow of the system.	☐	☐	☐	.....
4.4.11	Pumps are permanently primed.	☐	☐	☐	.....
4.4.12	Non-return valve(s) are provided to prevent water backflow into the water tank.	☐	☐	☐	.....
4.4.13	The status of each fire pump comprising "Power Supply On", "Pump Running" and "Pump Failed" are monitored and displayed at the pump control panel in the pump room.	☐	☐	☐	.....
4.4.14	Such signals are repeated to:	☐	☐	☐	.....
	Fire control centre ☐ or				
	A status panel at the main entrance of the building ☐				
		Yes	No	N/A	Remarks
4.4.15	All fire pumps are housed in suitable enclosures and designed solely for accommodating pumps for fire service installations.	☐	☐	☐	.....
4.4.16	Pump enclosures are laid clear of any exit or normal communication routes through the premises.	☐	☐	☐	.....
4.4.17	Pump enclosures are clearly marked in English and Chinese characters.	☐	☐	☐	.....
4.4.18	Pumps enclosures are suitably locked to prevent unauthorized tampering of the pumps.	☐	☐	☐	.....
4.4.19	Flow rate and pressure tested in accordance with Figure No. in ANNEX I.	☐	☐	☐	.....

	Floor level of tested hydrant				
	Flow(1/min):				
	Pressure (kPa):				
4.4.20	Running and static pressure at any hydrant outlet not exceeding 850 kPa.	[ ]	[ ]	[ ]	.....
4.5	INTERMEDIATE BOOSTER PUMP	[ ]	[ ]	[ ]	.....
4.5.1	Height between the topmost hydrant and the lowest F.S. inlet (m):				
4.5.2	No. of rising main:				
4.5.3	Required aggregate flow (l/min):.....				
4.5.4	The pumps are duplicated for duty and standby use.	[ ]	[ ]	[ ]	.....
4.5.5	The standby pump is energized within 15 seconds upon failure of the duty pump.	[ ]	[ ]	[ ]	.....
4.5.6	Intermediate booster pump arrangements:—				
4.5.6.1	One set consisting of duty and standby to feed all rising mains in the same system.	[ ]	[ ]	[ ]	.....
4.5.6.2	Two/three pumps of same capacity using sequential starting as duty pumps with one standby to achieve required flow and pressure within 30 seconds.	[ ]	[ ]	[ ]	.....
4.5.7	The motors driving the pumps are rated to give 20% more power in addition to the hydraulic power required for the rated flow.	[ ]	[ ]	[ ]	.....
4.5.8	All pumps are permanently primed and electrically driven.	[ ]	[ ]	[ ]	.....
4.5.9	Pump continues to run irrespective of power interruption when start button is activated.	[ ]	[ ]	[ ]	.....
		Yes	No	N/A	Remarks
4.5.10	Start/stop push buttons with pump running indication light and buzzer provided adjacent to the fire service inlet.	[ ]	[ ]	[ ]	.....
4.5.11	The status of each fire pump comprising “Power Supply On”, “Pump Running” and “Pump Failed” are monitored and displayed at the pump control panels in the pump enclosures.	[ ]	[ ]	[ ]	.....
4.5.12	Such signals are repeated to:	[ ]	[ ]	[ ]	.....
	Fire control centre [] or				
	A status panel at the main entrance of the building []				
4.5.13	All fire pumps are housed in suitable enclosures and designed solely for accommodating pumps for fire service				

	installations.	☐	☐	☐	.....
4.5.14	Pump enclosures are suitably locked and laid clear of any exit or normal communication routes through the premises.	☐	☐	☐	.....
4.5.15	Pump enclosures are clearly marked in English and Chinese characters.	☐	☐	☐	.....
4.5.16	The intermediate booster pump utilized as the fixed fire pump.	☐	☐	☐	.....
4.5.17	Flow rate and pressure tested in accordance with Figure No. in ANNEX I. Floor level of tested hydrant: Flow (l/min):..... Pressure (kPa): .....	☐	☐	☐	.....
4.5.18	Running and static pressure at any hydrant outlet not exceeding 850 kPa.	☐	☐	☐	.....
4.6	RISING MAIN				
4.6.1	The nominal bore of the rising main, in the case of industrial/godown buildings: Not less than 100 mm	☐	☐	☐	.....
	Each rising main supplies two hydrant outlets per floor	☐	☐	☐	.....
4.6.2	The nominal bore of the rising main in other types of buildings: Not less than 80 mm	☐	☐	☐	.....
	Each rising main supplies one hydrant outlet per floor	☐	☐	☐	.....
		Yes	No	N/A	Remarks
4.6.3	Provision of by-pass for intermediate booster pump.	☐	☐	☐	.....
4.6.4	All rising and down-coming mains are permanently primed.	☐	☐	☐	.....
4.6.5	Suitable air relief valves provided.	☐	☐	☐	.....
4.6.6	Each rising main is connected to a fire service inlet.	☐	☐	☐	.....
4.6.7	Header pipe(s) provided to connect the fire service inlets to the rising mains.	☐	☐	☐	.....
4.6.8	The diameter of the header pipe is: For industrial/godown buildings not less than 150 mm nominal bore	☐	☐	☐	.....
	For other buildings not less than 100 mm nominal bore	☐	☐	☐	.....
4.6.9	For godown/industrial buildings, a rising main provided for each staircase with a fire service inlet.	☐	☐	☐	.....

4.6.10	Number and location of fire service inlets are conforming to latest approved building plan.	[ ]	[ ]	[ ]	.....
4.7	FIRE SERVICE INLET				
4.7.1	Suitably enclosed and protected.	[ ]	[ ]	[ ]	.....
4.7.2	Readily accessible by Fire Services personnel.	[ ]	[ ]	[ ]	.....
4.7.3	Centre of coupling not less than 600 mm nor more than 1 000 mm above ground level.	[ ]	[ ]	[ ]	.....
4.7.4	A non-return valve provided for each inlet.	[ ]	[ ]	[ ]	.....
4.7.5	Each inlet is affixed with a metal identification plate raised or engraved with English and Chinese characters.	[ ]	[ ]	[ ]	.....
4.7.6	The frontage of each inlet enclosure is clearly and permanently indicated in English and Chinese characters “FS INLET” (消防入水掣) of not less than 50 mm high.	[ ]	[ ]	[ ]	.....

V. *GENERAL COMMENTS & REMARKS*

Test conducted by:

..... (Signature)

.....
Name of FSI Contractor's Representative (in block letters)

.....
Company Chop

.....(RC /)
Name of FSI Contractor (FSI Contractor Registration Number)

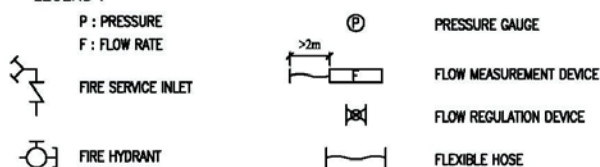
Date

ANNEX I – FIGURES FOR EQUIPMENT ARRANGEMENT FOR TESTING OF FIRE PUMPS

GENERAL NOTES : –

- (i) THE FLOW MEASURING DEVICE(S) MAY BE PLACED AT ROOF LEVEL FOR CONVENIENT DISCHARGE OF WATER.
- (ii) ALL HYDRANTS UNDER TEST SHALL BE FULLY OPENED.
- (iii) THE PRESSURE GAUGE SHALL BE SITUATED ADJACENT TO THE HYDRANT OUTLET UNDER TEST.

LEGEND :



1. FIXED FIRE PUMP (BUILDINGS OTHER THAN INDUSTRIAL/ GODOWN – i.e. 900 l/min) (ANY OF THE FOLLOWING ARRANGEMENTS SHALL BE FOLLOWED)

FIG. 1.1

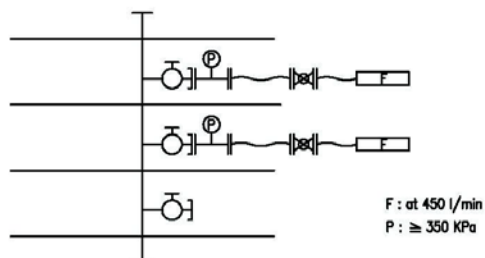


FIG. 1.2

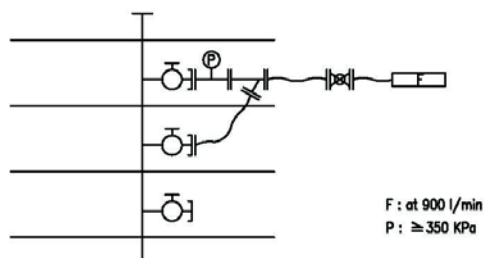
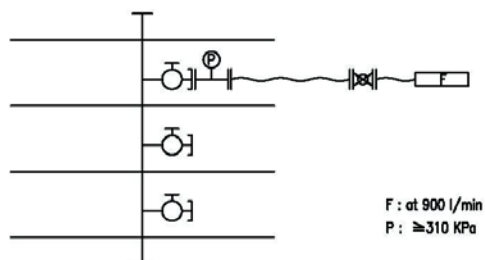
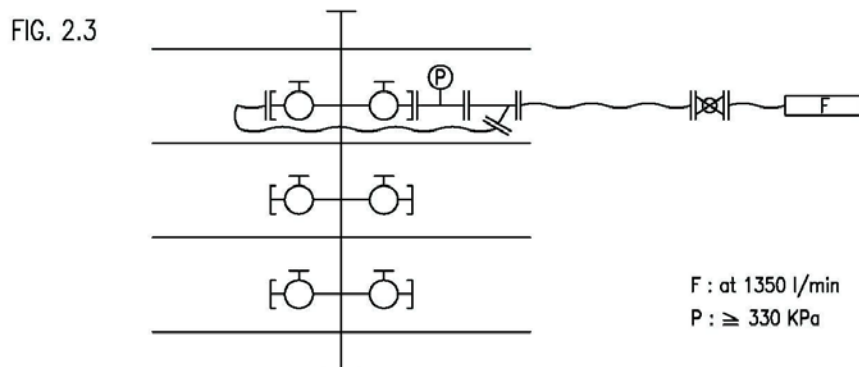
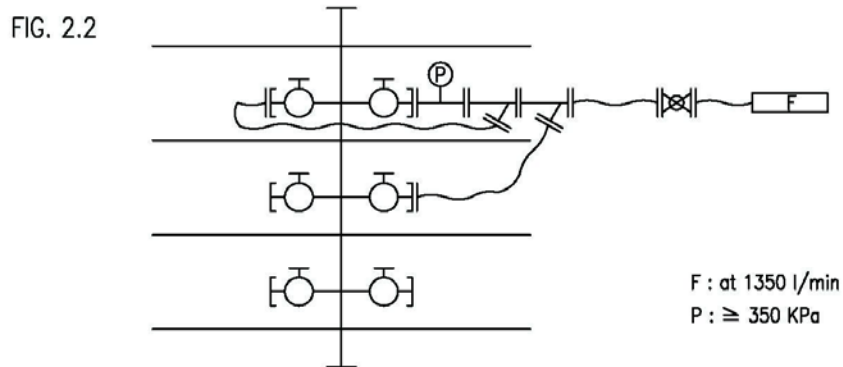
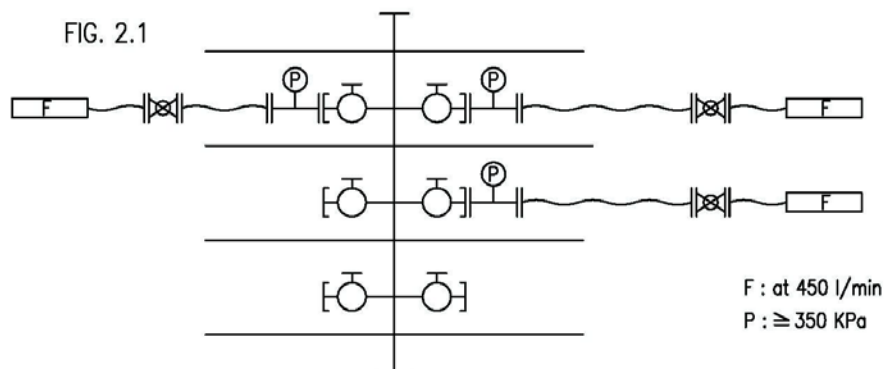


FIG. 1.3



2. FIXED FIRE PUMP (INDUSTRIAL / GODOWN BUILDINGS)

(ANY OF THE FOLLOWING ARRANGEMENTS SHALL BE FOLLOWED)



3. INTERMEDIATE BOOSTER PUMP (BUILDINGS OTHER THAN INDUSTRIAL/ GODOWN)

FIG. 3.1 DOMESTIC AND OTHER BUILDINGS WITH SINGLE RISING MAIN (900 l/min)
TESTING EQUIPMENT TO BE ARRANGED IN ACCORDANCE WITH (1)

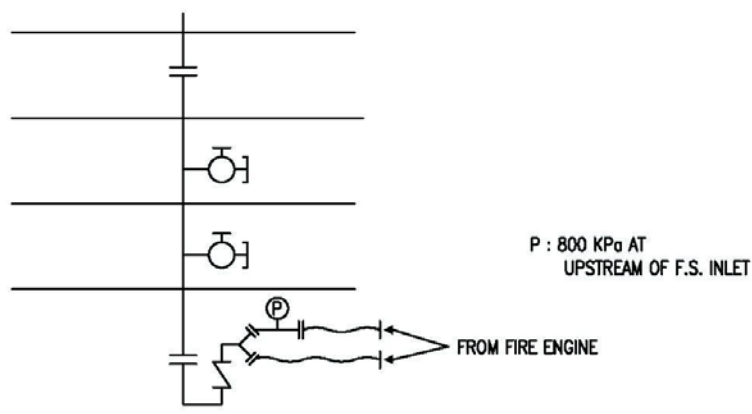
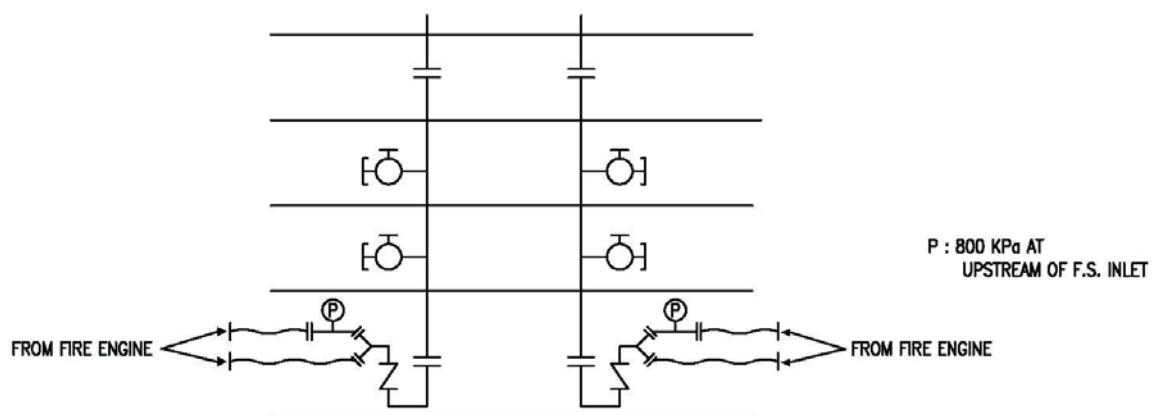


FIG. 3.2 OTHER BUILDINGS WITH TWO OR MORE RISING MAINS (1800 l/min)

TWO SETS OF RISING MAIN SHALL BE
TESTED SIMULTANEOUSLY IN ACCORDANCE WITH (1)



4. INTERMEDIATE BOOSTER PUMP (INDUSTRIAL / GODOWN BUILDINGS)

FIG. 4.1 SINGLE RISING MAIN (1350 l/min)

TESTING EQUIPMENT TO BE ARRANGED IN ACCORDANCE WITH (2)

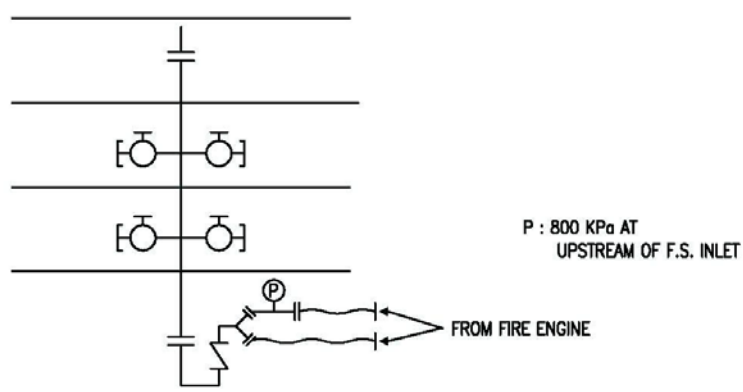


FIG. 4.2 TWO OR MORE RISING MAINS (2700 l/min)

TWO SETS OF RISING MAIN SHALL BE TESTED SIMULTANEOUSLY IN ACCORDANCE WITH (2)

