



SCHEMATIC

- * SEE VENT & RELIEF TABLE FOR SIZE
- ** STRAIGHT PIPE REQUIRED
- *** PRESSURE TEST CONN VIA A 'PETE' PLUG ON METER

TOTAL LOAD 16,000 TO 23,000 CFH

METER INSTALLATION AT ALL TIMES SHALL BE CLEAN, DRY, FREE FROM STEAM, CHEMICAL FUMES & A MINIMUM OF 3 FT. FROM SOURCES OF IGNITION, SUCH AS ELECTRIC RELAYS, SWITCHES, MOTOR STARTERS INCLUDING OIL OR GAS FIRED FURNACES & WATER HEATERS. INSTALLATIONS SHALL CONFORM TO NEW YORK STATE PSC CODE TITLE 18 PART 255 & 261 AND NEW YORK CITY BUILDING CODE TITLE 27 & RS-16 SECT. P115. NO DOMESTIC APPLIANCES MAY BE ADDED TO DISTRIBUTION PIPING OPERATING AT PRESSURES IN EXCESS OF 14" W.C. WITHOUT AUTHORIZATION OF NATIONALGRID CUSTOMER SERVICES. ADDITIONAL PRESSURE REGULATING DEVICES MAY BE REQUIRED. CONNECTION OF ADDITIONAL GAS EQUIPMENT, OR GAS EQUIPMENT MODIFICATION/CONVERSION MUST BE APPROVED BY NATIONALGRID PRIOR TO INSTALLATION.

PRESSURE CORRECTED

NOTE: FOR VENT & RELIEF PIPING IN EXCESS OF 100' CONTACT SYSTEM DESIGN SECTION FOR CORRECT PIPE SIZE.

* VENT PIPE SIZE TABLE		* RELIEF PIPE SIZE TABLE	
TOTAL LEN.	NOMINAL SIZE	TOTAL LEN.	NOMINAL SIZE
0 - 100'	1"	0 - 20'	3/4"
		0 - 50'	1"
		0 - 100'	1-1/2"

THIS DRAWING CONFORMS TO	
1	PUBLIC SERVICE COMM. CODES, RULES & REGULATIONS
	TRANS. & DIST. OF GAS SAFETY - 16NYCRR PART 255 & 261
2	N.Y.C. ADMINISTRATION CODE TITLE 27 & RS-16 SECT. P115.

nationalgrid BROOKLYN, QUEENS, STATEN ISLAND

METER & REGULATOR LAYOUT FOR

CFH	SYSTEM PRESSURE 60 PSIG	#	RATE
APPROVALS		DATE:	
GAS ENGINEERING		REV. NO:	
SYSTEM DESIGN		REV. DATE:	
DESIGN: P. O'NEIL	DRAWN: P. O'NEIL	DWG. ENG. MR-491B	

BILL OF MATERIAL					
NO.	ITEM	SIZE	QUAN.	BY	STOCK NO.
1	METER, ROOTS ROTARY 23M232, W/TEMP & PRESS CORR DEVICE	4"	1	NATIONAL GRID	----
2	REGULATOR, FISHER 133L, CAST IRON BODY, F-F FLANGED SP. (BLUE) #1H9758 27032, SPRING RANGE .75 - 2 PSIG, SET AT 2 PSIG	2"	1	NATIONAL GRID	00357012 00357108
3	SECURITY VALVE, AMERICAN, SERIES 100 SLAM SHUT, F-F FLANGE OR EQ.	2"	1	NATIONAL GRID	00357168 00357087
4	SP. (ORANGE/YELLOW) #70017P078, SP RANGE 3 - 5 PSIG, SET AT 4 PSIG				
5	RELIEF VALVE, FISHER 289U, SPRING #0F0582 27022	1/4"	1	NATIONAL GRID	00785360
6	SPRING RANGE 20" W.C. - 3 PSIG, SET AT 3 PSIG				
7	INSUL. KIT FOR 150# ANSI F-F STEEL FLANGE	3"	1	Customer ↓	00333003
8	COMPRESSION COUPLING, DRESSER STYLE 38, STRAPPED	4"	1		00316384
9	INSUL. KIT FOR 150# ANSI F-F STEEL FLANGE	1"	1		00333009
10	VENT ASSEMBLY, WITH RAIN AND INSECT RESISTANT SCREEN (FOR CORRECT VENT ASSEMBLY SIZE SEE VENT & RELIEF TABLE ON FRONT SIDE)	3/4"	3	NATIONAL GRID	00786211 00786214 00786215
11	COMPRESSION COUPLING, DRESSER STYLE 90, INSULATING (FOR CORRECT COUPLING SIZE SEE VENT & RELIEF TABLE ON FRONT SIDE)	1-1/2"	3	Customer ↓	00316513 00316513 00316511
12	COMPRESSION COUPLING, DRESSER STYLE 90, LOCK TYPE	3/4"	1		00316522
13	PLUG VALVE, NORDSTROM FIG 143	4"	1		00382208
14	INSUL. KIT FOR 150# ANSI F-F STEEL FLANGE	4"	1		00333023
15	STRAINER, MUESCO "Y"	2"	1		00301028
16	THERMOMETER WELL	1"	1		----
17	VALVE, LOCKWING, LUBRICATED, (MUELLER LUBOSEAL H-11175 OR ROCKFORD ECLIPSE LUBE-RING 802309-33) (LOCK OPEN DEVICE SUPPLIED BY NGRID)	3/4"	3	CUSTOMER	----
18	VALVE, LOCKWING, MUELLER TAMP-PROOF H-11118 OR MCDONALD 525B, LOCK CLOSED	3/4"	3	CUSTOMER	----
19	VALVE, LOCKWING, MUELLER TAMP-R-LOK H-11119B LOCK CLOSED	1-1/4"	1	CUSTOMER	----
20	FORGED STEEL CONCENTRIC REDUCER (SEE NOTE 17)	---	1	CUSTOMER	----
21	FLANGE, 150# ANSI F-F STEEL, WELD NECK	4"	2	CUSTOMER	----
22	FLANGE, 150# ANSI F-F STEEL, WELD NECK OR SCREWED	1"	2	CUSTOMER	----
23	FORGED STEEL CONCENTRIC REDUCER OR SCREWED FITTING	1"x3/4"	1	CUSTOMER	----
24	FORGED STEEL CONCENTRIC REDUCER (SEE NOTE 15)	4"x2"	1	CUSTOMER	----
25	FLANGE, REDUCING, 150# ANSI F-F STEEL (SEE NOTE 18)	4"x2"	1	CUSTOMER	----

NOTES

1. PILOT GAS FROM FIRM LOAD METER - IF REQUIRED.
2. IF SECURITY VALVE SETTING IS GREATER THAN 2 PSI, STRAPPING OF COUPLINGS IS REQUIRED & MUST CONFORM TO STD DWGS A-004 & A-007.
3. PROVIDE ADEQUATE SPACING AROUND METER (FROM SURROUNDING PIPING & PARTITIONS) TO PERMIT REMOVAL & MAINTENANCE.
PROVIDE 5 FT CLEAR SPACE IN FRONT OF METER.
4. ALL FLANGES TO BE SUPPLIED BY CUSTOMER; FLANGES TO BE STEEL & COMPATIBLE IN TYPE & PRESS. RATING WITH MATING FLANGE.
FLANGES SHALL BE WELD NECK OR THREADED END AS SPECIFIED IN BILL OF MATERIALS; SLIP-ON FLANGES ARE NOT PERMITTED.
WHERE MATERIAL IS NOT SPECIFIED, WELD NECK FLANGES SHALL BE USED UNLESS PIPE DIA. & PRESS. CONDITIONS PERMIT THE
INST. OF SCREWED FITTINGS. SEE NOTE 5 & 7 FOR CONDITIONS.
5. FOR REGULATOR PRESS. AT 1/2 PSIG OR LESS, SCREWED FITT. SHALL NOT BE USED FOR PIPE SIZES ABOVE 4" IN DIAMETER. FOR REG. OUTLET PRESS.
GREATER THAN 1/2 PSIG BUT LESS THAN 3 PSIG, SCREWED FITT. SHALL NOT BE USED FOR PIPE SIZES EQUAL TO OR GREATER THAN 4" IN DIA.
6. BLIND FLANGE WITH 3/4" TAP HOLE & PLUG (INST. BY DOP) TO BE RETURNED TO STOCK BY CUSTOMER SERVICE AS PER STD DWG S-002.
7. THREADED FITTINGS MAY BE USED UP TO & INCLUDING 4" FOR PIPING FROM THE SERVICE VALVE TO THE REGULATOR.
8. SEE STD DWG VS-202 (AMERICAN), VS-203 (ROCKWELL) OR VS-204 (DONKIN) FOR SEC VAL EQUALIZER LINE REQUIREMENTS & INST.
9. ALL CLOSE/ALL THREADED NIPPLES, IF USED MUST BE EX-HAVY, ALL CONTROL, VENT & RELIEF PIPING & FITTINGS TO BE STANDARD WALL THICKNESS.
10. TEMPERATURE COMPENSATED METERS ARE TO BE INSTALLED IN ALL OUTDOOR LOCATIONS OR WHERE THE METER IS EXPOSED TO
TEMPERATURES EQUIVALENT TO AN OUTDOOR ENVIRONMENT.
11. METER TO BE INSTALLED IN LEVEL POSITION & MOUNTED IN HORIZONTAL POSITION ONLY.
12. DO NOT WELD WITH METER IN LINE - USE SPOOL PIECE.
13. FOR METER PIPING DIA. GREATER THAN 4" & PRESS. GREATER THAN 15 PSI A PROPERLY VENTED ROOM OF 3 HOUR FIRE RATED CONST. IS REQUIRED.
14. ALL THREADED FITTINGS TO BE INSTALLED ON STRAIGHT PIPE, NOT ON FITTINGS.
15. FORGED STEEL CONC. RED. (ITEM 22) TO BE WELDED DIRECTLY TO REGULATOR OUTLET MATING FLANGE (2" 150# ANSI F-F WELD NECK FLANGE).
16. IF STRAINER & SEC. VAL. FLNG. ENDS ARE COMPATIBLE IN TYPE (BOTH R-F OR F-F) & PRESS RATING, EQUIP. MAY BE INST. BACK TO BACK.
17. SIZE OF REDUCER (ITEM 18), IF REQUIRED, TO BE DETERMINED BY DISTRIBUTION (HOUSE) PIPING DESIGN OF CUSTOMER'S CONTRACTOR.
18. A FORGED STEEL CONCENTRIC REDUCER OR SCREWED FITTING MAY BE USED AS AN ALTERNATE TO THE REDUCING FLANGE (ITEM 23).

ALL INSTALLATIONS

- A) ALL PIPING SHALL CONFORM TO & BE TESTED ACCORDING TO THE NEW YORK CITY ADMIN. CODE, & NATIONAL GRID SPECIFICATIONS.
- B) NO CAST IRON FITTINGS SHALL BE USED EXCEPT VALVES, REGULATORS, METERS, RELIEF VAL., AUTOMATIC SHUT-OFF VAL. & STRAINERS.
- C) ALL FLANGES TO BE ANSI 150 PSI F-F STEEL OR ANSI 300 PSI R-F STEEL, UNLESS NOTED OTHERWISE.
- D) DO NOT USE BUSHINGS EXCEPT AS NOTED.
- E) REGULATOR TO BE INSTALLED WITH "FLOW ARROW" ON BODY AS SHOWN ON DRAWING.
- F) MISC. PIPE, FIT., BOLTS, NUTS, GASKETS, ANCHORAGE ASSEMBLIES, ETC., NOT LISTED TO BE FURNISHED & INST. BY CUSTOMER'S PLUMBER.
- G) ALL FACTORY THREADED FITTINGS ETC., TO BE THOROUGHLY CLEANED OF ALL FOREIGN MATERIAL BEFORE BEING INSTALLED.
- H) ALL PIPING TO HAVE NECESSARY SUPPORTS AND BRACES TO NON-METALLIC STRUCTURES & TO BE ELECTRICALLY INSULATED.
SCHEMATIC DOES NOT EXHIBIT ALL PIPELINE SUPPORT NEEDS. INSTALL ADDITIONAL SUPPORTS & BRACES AS REQUIRED.
- J) NATIONAL GRID SHALL NOT BE RESPONSIBLE FOR FITTING DIMENSIONS OR FOR SCALED DIMENSIONS.
- K) PREVENT ELECTRICAL SHORT BETWEEN GAS SERVICE ENTRANCE AND METER OUTLET.
- L) ALL VENT HEADS SHALL BE LOCATED 6 FT. MIN. ABOVE OUTSIDE GRADE. DO NOT LOCATE NEAR ANY BUILDING OPENING, WINDOW, DOOR, ETC. PLACE VENT MARKER WORDED "GAS VENT" AT EACH VENT. VENT TO BE RAIN RESISTANT WITH APPROVED SCREEN.
- M) DIAPHRAGMS OF ALL REGULATORS AND SAFETY DEVICES TO BE PROTECTED DURING PRESSURE TESTS.
- N) WHERE PRESS. OF MORE THAN 3 PSI IS FURNISHED THE CUSTOMER MUST OBTAIN SPECIAL PERMISSION FROM THE COMMISSIONER.
(NYC ADMIN. CODE - GAS PIPING). PIPING OVER 1/2 PSI SHALL ALSO CONFORM TO ANSI CODES B31.2 - 1968.