

Natural Gas Operation | Tempest®

All Data:.....is based on firing with ambient combustion air.

UA-DA:.....Published data is reasonably accurate between 6.9 and 34.6"w.c. (1.7 and 8.6 kPa) main air pressure (UA) if piped with >5 diameters of straight pipe into burner. Square rooting the UA-DA pressure drops using the published 27.7"w.c. (6.9 kPa) data is reasonably accurate between 6.9-34.6"w.c. (1.7-8.6 kPa) air pressure. Below 6.9"w.c. (1.7 kPa) the UA-DA data is suspect and should not be used for accurate air metering. Square rooting will over-estimate air flow below 6.9"w.c. (1.7 kPa) and underestimate above 34.6"w.c. (8.6 kPa).

UG-DG:.....UG-DG information can be used to approximate fuel gas flow. External gas orifices or O₂ analysis should be used for precise determination of fuel metering and air/fuel ratio.

Max % XSAir, fs
 Max % XSAir, UV
 Max % XSAir, flame rod
 Max % XSFuel, fs

fs - indicates the maximum flame supervisory XSAir or XSFuel using either a UV detector or the specified flame rod listed on the 4441 parts list.

Max % XSAir, ignition
 Max % XSFuel, ignition

ignition - indicates the maximum XSAir or XSFuel at which the integral igniter will light the burner.

DG:.....Tile pressures are average values and are subject to considerable variation (±10%)

NOTE: The capacity of the burners has not changed but static pressure has been transitioned to measuring static pressure in imperial units by inches of water column. Previous versions of the bulletin measured static air pressure in ounces per square inch. Conversion: 1 osi = 1.73"w.c.

NATURAL GAS OPERATION

Main Air Pressure, (UA pressure tap), "w.c

4441-1	0.9	1.7	6.9	15.6	20.8	27.7	34.6	41.6
Air Flow, not burning (scfh)						1600		
Air Flow, (scfh)	200	280	600	900	1025	1250	1400	1550
Air Orifice ΔP, UA-DA, ("w.c.)	0.4	0.7	2.9	7.1	9.7	13.2	15.8	19.5
Gas Orifice ΔP, UA-DA, ("w.c.)	0.1	0.2	1	2.2	2.5	3.9	5	6
Tile Pressure, DG ("w.c.)	0.55	0.9	3.7	8.1	10.8	14.1	17.7	21
Max. % XSAir, fs, ignition	400	600	900	2000	2000	2000	2000	2000
Max. % XSFuel, fs	30	30	30	30	30	30	30	30
Max. % XSFuel, ignition	30	30	30	30	30	30	30	30
Flame Length (in.)	6	7	7	8	9	10	10	10
Flame Diameter (in.)	0.75	0.75	0.75	1	1	1	1	1

4441-2	0.3	1.7	6.9	15.6	20.8	27.7	34.6	41.6
Air Flow, not burning (scfh)						2700		
Air Flow, (scfh)	200	450	1040	1650	1890	2200	2500	2700
Air Orifice ΔP, UA-DA, ("w.c.)	0.15	1.23	3.7	9	11.4	16.6	20.9	25.3
Gas Orifice ΔP, UA-DA, ("w.c.)	0.05	0.3	1.3	3	4.4	6.7	8.5	8.6
Tile Pressure, DG ("w.c.)	0.2	0.8	2.9	5.9	7.7	9.8	12	14.3
Max. % XSAir, fs, ignition	400	1500	2000	3000	3000	3000	3000	3000
Max. % XSFuel, fs	30	30	30	30	30	30	30	30
Max. % XSFuel, ignition	30	30	30	30	30	30	30	30
Flame Length (in.)	6	8	10	10	10	10	11	10
Flame Diameter (in.)	1	2	1.5	1.5	2	2	2	2