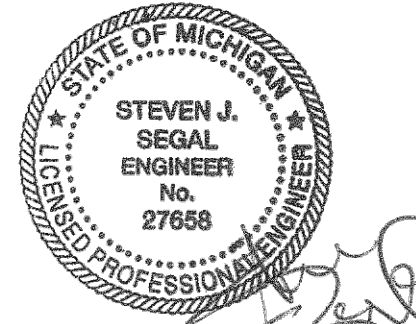
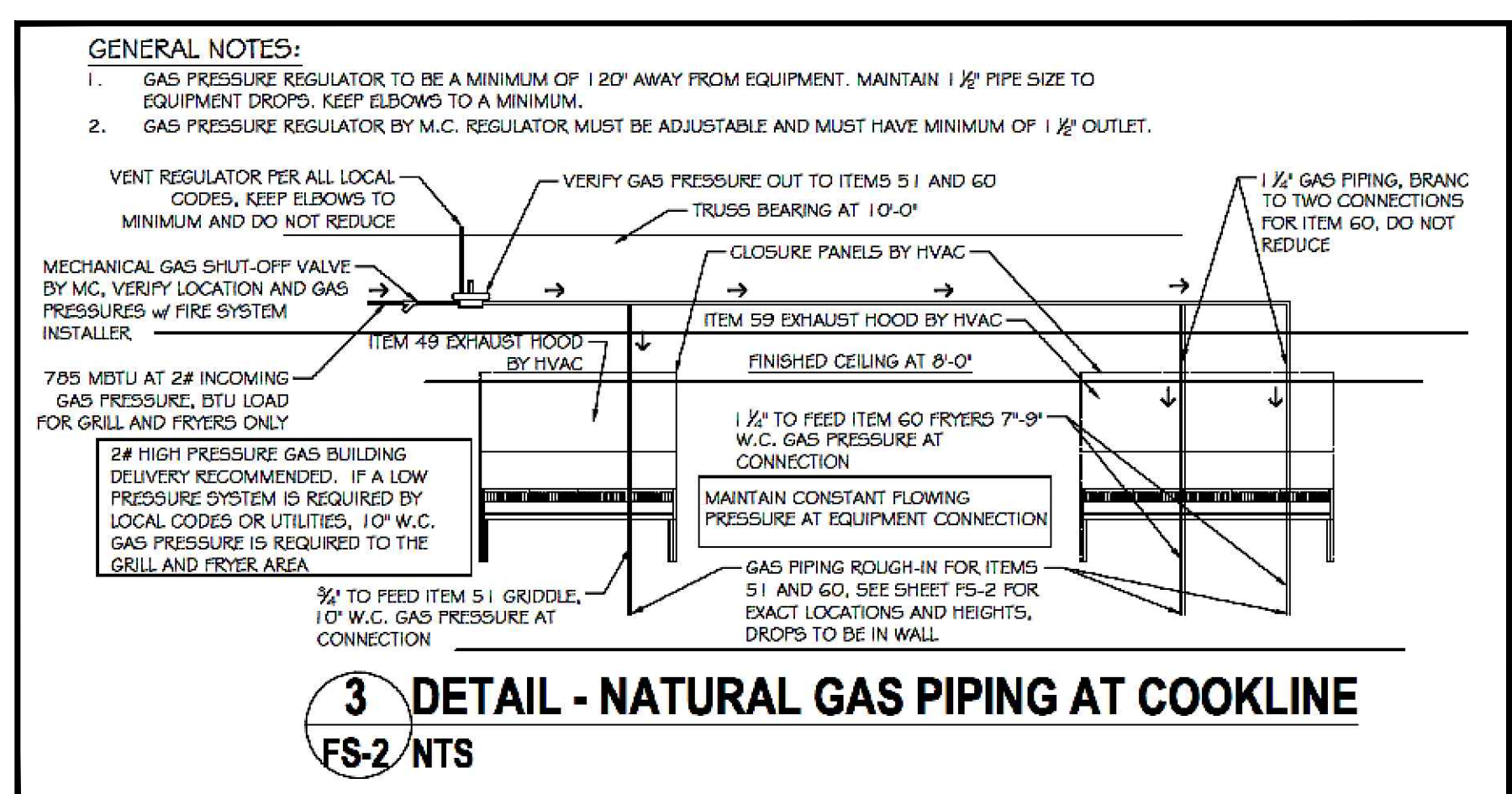


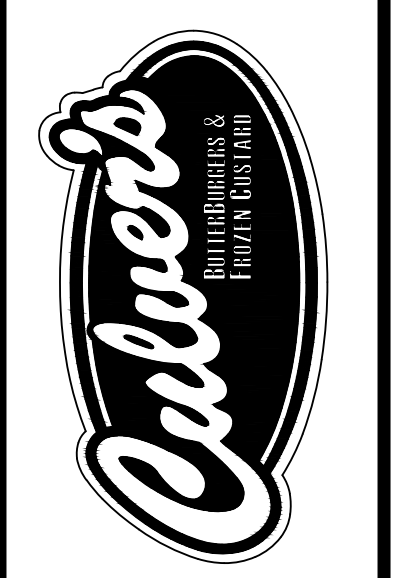
GAS PIPING PLAN
 SCALE: 1/4" = 1'-0"
 PLAN NORTH



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Culver Franchising System, LLC
 1240 Water Street
 Prairie du Sac, WI 53578
 608-643-7900



CULVER FRANCHISING SYSTEM, LLC
METRO L - 2023
PROTOTYPE PLANS

Sheet Contents:
GAS PIPING PLAN

Project No. Metro L - 2023
 Drawn By: R.K.
 Date: 09/29/2024

Sheet
M-2

Culvers
3015 Lohr Road
Ann Arbor, MI 48108
HVAC EQUIPMENT

ROOFTOP UNITS

Unit I.D.	Supply CFM	O.A. CFM	Nominal Tons	Heating		Volts	Mfr	Model
				Input BTU	Output BTU			
RTU-1	3,000	675	7 1/2	220,000	120,000	208/230	Carrier	48FCEN08A2A5
RTU-2	3,000	675	7 1/2	220,000	120,000	208/230	Carrier	48FCEN08A2A5
RTU-3	4,000	900	10	224,000	180,000	208/230	Carrier	48FCEN12A2A5
RTU-4	3,000	675	7 1/2	220,000	120,000	208/230	Carrier	48FCEN08A2A5
RTU-5	3,000	675	7 1/2	220,000	120,000	208/230	Carrier	45FCEN08A2A5

Notes:
1. Existing

DIFFUSERS AND GRILLS

I.D.	Usage	Size	Location	Type	Model	Mfr
S-1	Supply	24"x24"	See Plan	Steel	SCD	Price
S-2	Supply	12"x12"	See Plan	Steel	SCD	Price
R-1	Return	24"x24"	See Plan	Aluminum	80	Price

Notes:
1. Supply Air Grilles to have Balancing Dampers
2. Coordinate all Final Grille Locations with Reflected Ceiling Plan
3. Equal by Carnes or Titus

EXHAUST FANS

Unit I.D.	CFM	ESP	Model	HP	Amps	Volts	Phase	Mfr
EF-1	1,500	1.0"	CUBE-160	1/2		120	1	Greenheck
EF-2	1,500	1.0"	CUBE-160	1/2		120	1	Greenheck
EF-3	500	0.5"	GB-101	1/4		120	1	Greenheck
EF-4	75	0.125"	SP-A70		0.14	120	1	Greenheck
EF-5	225	0.125"	SP-A250		0.56	120	1	Greenheck
EF-6	225	0.125"	SP-A250		0.56	120	1	Greenheck

Notes:
1. Roof hood
2. Disconnect Switch, Backdraft Damper
3. Equal by Krueger or Titus

GENERAL NOTES

- For Kitchen Hoods and Fans refer to drawings by ACCUREX, 12/4/2019.
- All kitchen exhaust ductwork to be insulated and fire wrapped per code.
- Provide means for grease removal from ductwork per code.

Culvers
3015 Lohr Road
Ann Arbor, MI 48108
Outdoor Air Calculations

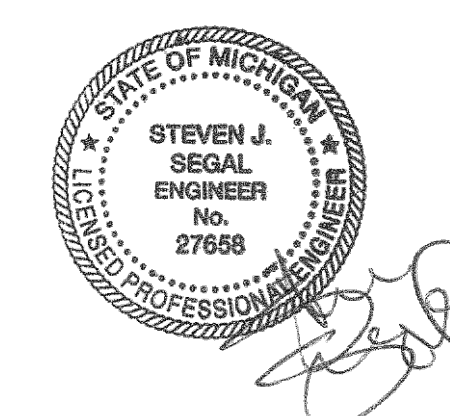
2021 Michigan Mechanical Code
403.3.1.1.1 Breathing zone outdoor air flow
Equation 4-1: $V = R P + R A$
 $b p z a z$

where:
A = Zone floor area
z
P = Zone population= 70 people/1000 sq ft, Dining
z
R = People outdoor air rate = 7.5 cfm/person, Dining
p
R = Area outdoor air rate = 0.18 cfm/sq ft, Dining
a
0.06 cfm/sq ft, Corridor & Lobby

403.3.1.2 Zone Air Distribution Effectiveness $E = 0.8$
z

403.3.1.3 Zone outdoor air flow
Equation 4-2: $V = V / E$
 $o z b z z$

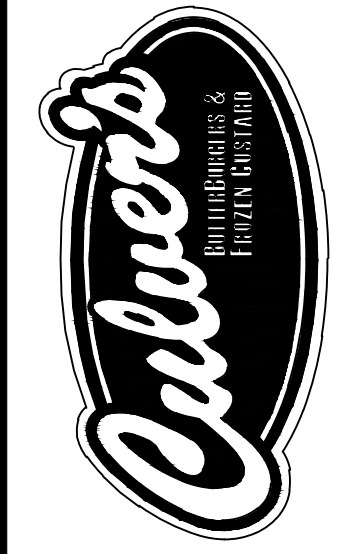
Zone	Zone floor area A z	Zone population P z	Required outdoor air flow	
			Equation 4-1	Equation 4-2
Dining 101	1,296	90	900	1,135
Customer Order 105	364	25	250	315
Entry 106	192		12	15
Hall 109	420		25	32
Customer Service 110	100	4	36	45
Office 117	108	1	11	14
Hall 122	100		6	8
Dry Goods 115	200		12	15
Dry Goods 118	200		12	15
Totals	2,980	110	1,264	1,594



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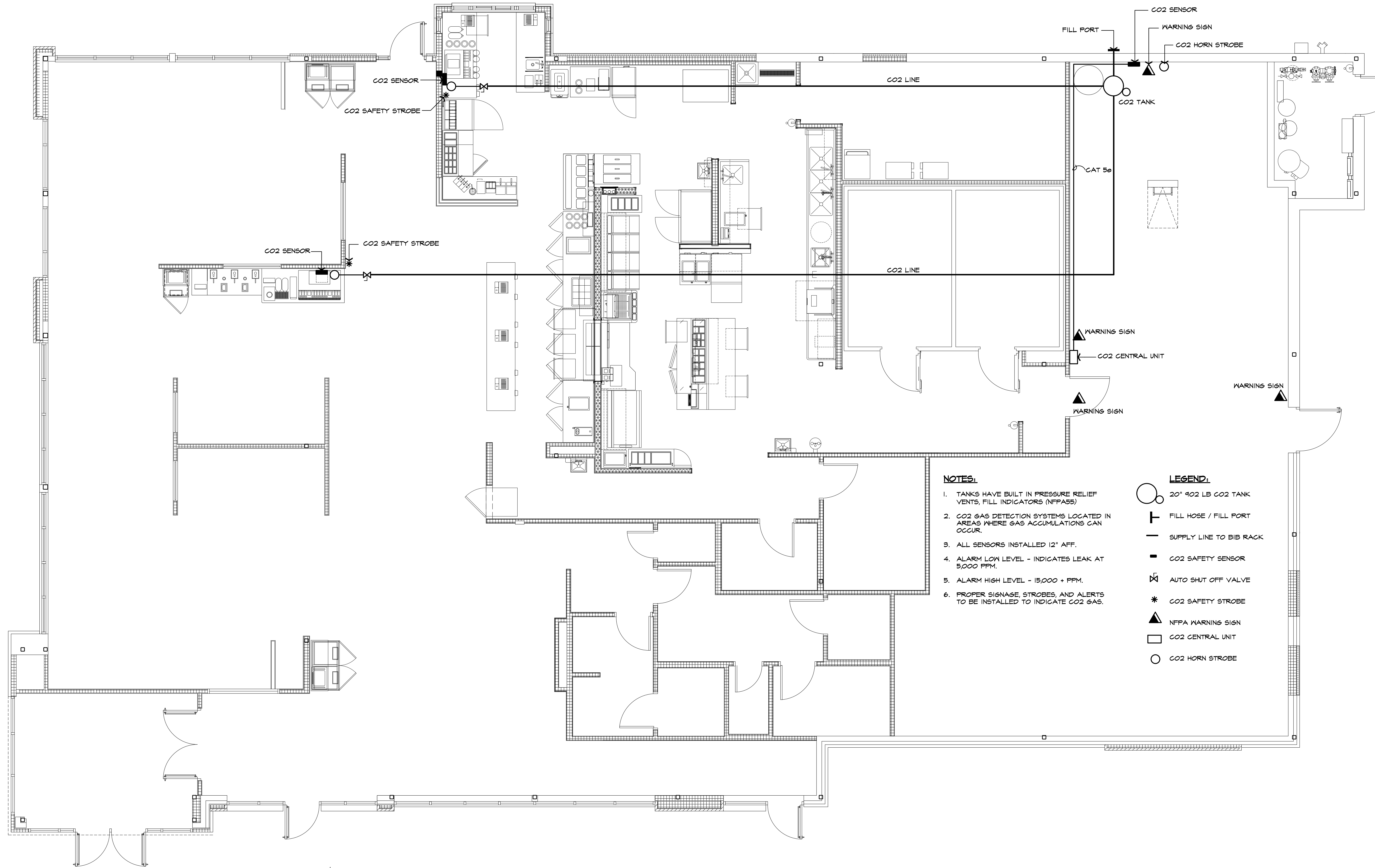


CULVER FRANCHISING SYSTEM, LLC
METRO L - 2023
PROTOTYPE PLANS

Sheet Contents:
MECHANICAL SCHEDULES

Project No. Metro L - 2023
Drawn By: R.K.
Date: 09/29/2024

Sheet
M-3



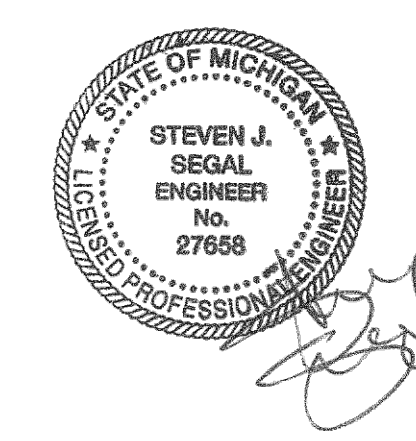
NOTES:

1. TANKS HAVE BUILT IN PRESSURE RELIEF VENTS, FILL INDICATORS (NFPA55)
2. CO2 GAS DETECTION SYSTEMS LOCATED IN AREAS WHERE GAS ACCUMULATIONS CAN OCCUR.
3. ALL SENSORS INSTALLED 12" AFF.
4. ALARM LOW LEVEL - INDICATES LEAK AT 5,000 PPM.
5. ALARM HIGH LEVEL - 15,000 + PPM.
6. PROPER SIGNAGE, STROBES, AND ALERTS TO BE INSTALLED TO INDICATE CO2 GAS.

LEGEND:

- 20" 902 LB CO2 TANK
- FILL HOSE / FILL PORT
- SUPPLY LINE TO BIB RACK
- CO2 SAFETY SENSOR
- AUTO SHUT OFF VALVE
- CO2 SAFETY STROBE
- NFPA WARNING SIGN
- CO2 CENTRAL UNIT
- CO2 HORN STROBE

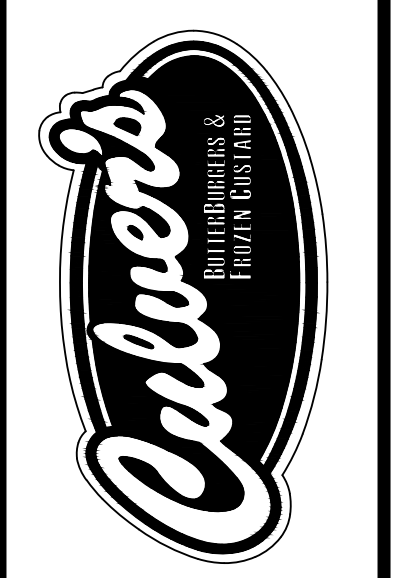
CO2 PLAN
SCALE: 1/4" = 1'-0"
PLAN NORTH



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CULVER FRANCHISING SYSTEM, LLC
METRO L - 2023
PROTOTYPE PLANS

Sheet Contents:
CO2 PLAN

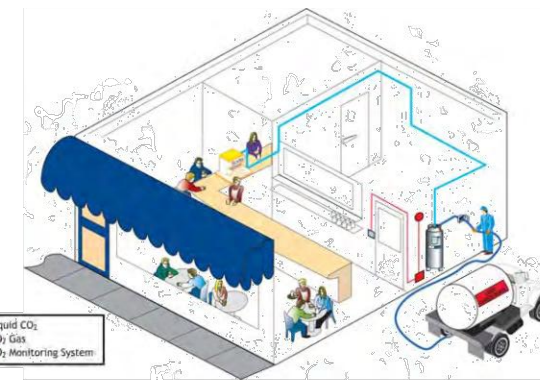
Project No. Metro L - 2023
Drawn By: R.K.
Date: 10/20/2024

Sheet
CO2-1

CARBO-MIZER. 550
HIGH CAPACITY - HIGH FLOW BULK CO₂



FAST FOOD • CONVENIENCE STORES • RESTAURANTS • BARS

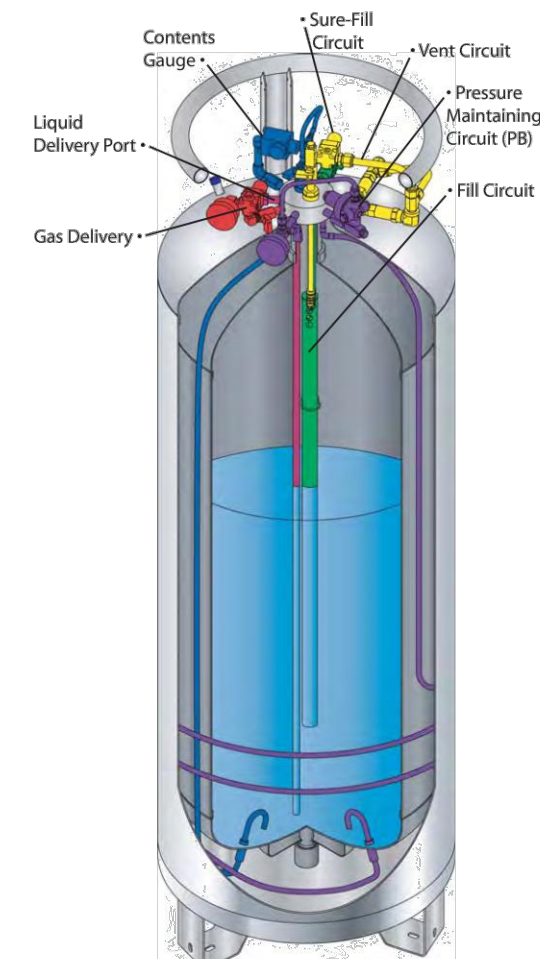


Carbo-Mizer® 550
The MVE Carbo-Mizer 550 bulk CO₂ system is an affordable alternative to high-pressure cylinders. This system offers flow rates that meet the demands of high-volume applications.

Each MVE Carbo-Series vessel is equipped with a proprietary vacuum maintenance system to ensure optimized long-term performance. Unique to the market, this feature offers greater efficiency over longer periods of time.



CARBO-MIZER. 550
HIGH CAPACITY - HIGH FLOW BULK CO₂



- Product Advantages:**
- Proprietary vacuum regeneration system for convenient, on-site maintenance
 - Safe, low operating pressure
 - Easy-to-read gauges for contents and tank pressure
 - Fully automated system requiring no electricity
 - Optional 6" (15.2 cm) welded um-body legs
 - Efficient gas withdrawal system supplies CO₂ gas up to 10 lbs per hour

SPECIFICATIONS

Dimensions	
Diameter	22 in 55.8 cm
Height (with legs)	72.9 in 185.1 cm
Empty Weight	318 lb 144.3 kg
Full Weight	902 lb 409.1 kg
Design Criteria	
Code	ASME [®]
MAWP	300 psig 20.7 bar
Insulation Type	SI [†]
Capacity	
Gross Volume	65.1 gal 246.4 ltr
Net Storage Volume	62 gal 235 ltr
Storage Capacity at 125 psig	584 lb 264.9 kg
Performance	
Evaporation Rate [‡]	2.5 lb/day 1.1 kg/day
CO ₂ Gas Delivery (Continuous) [§]	6.5 lb/hr 2.9 kg/hr
Peak Flow Rate (gas use) [¶]	10 lb/hr 4.5 kg/hr
Components	
ASME Relief Valve Setting	300 psig 20.7 bar
Secondary RW Setting	450 psig 31.0 bar
Gas Use Connection	1/4 in 45° Flare
Fill Line Connection	5/8 in Male 45° Flare
Vent Connection	1/2 in CO ₂ Tubing
Construction	
Inner Vessel Material	Stainless Steel
Outer Vessel Material	Stainless Steel
Liquid Level Gauge ^{**}	Differential Pressure

[†] Height without legs, subtract 6 in
[‡] ASME Boiler and Pressure Vessel Design Section VIII, Div.1
[§] Super Insulation/High Vacuum
[¶] No loss in normal applications
^{**} 12 consecutive hours at room temperature
^{**} Four consecutive hours at room temperature
^{**} Float gauge available upon request

Your Local Representative



Chart Inc.
U.S.: 1-800-400-4883
Worldwide: 1-952-758-4484
www.chartindustries.com
P/N 1470571



Accuflex Industrial Hose, Ltd
36663 Van Born Road, Suite 300
Rumulus, MI 48174
Phone: (734) 713-4100
Fax: (734) 713-4190
Email: sales@accuflex.com

PART NUMBER 172-045X2-0, BEVFLEX® 172 SERIES 500 FT LENGTH, 0.265 IN. NOMINAL ID, AND 1.10 IN. MIN. BEND RADIUS WHILE COLOR POLYSTER-REINFORCED POLYETHYLENE BEVERAGE HOSE



Features | Nominal Specifications | Specifications | Note

Features

- Proprietary Core Tube Construction** - Provides low odor and taste, excellent stress crack resistance and exceptional flexibility... makes fitting installation easier.
- Food-Grade Materials** - Bev-Flex® Series 172 beverage hose is NSF-51/61 certified. Polyethylene material complies with FDA Regulation 21 CFR 177.1520 (c) 3.1 b for food contact under conditions of use D through H in Table 2 of 21 CFR 176.170 (c).
- Polyester Reinforcement** - Provides pressure performance and kink resistance exceeding that of simple tubing.
- Smooth EVA (Ethylene Vinyl Acetate) Cover** - Provides increased flexibility.
- Phthalate Free**

Features

Accuflex Beverage Transfer Products

Note: Tracer yarn color coding - substitute for "X": 0 - White.

Nominal Specifications

Standard Package	500' Boxed Spool
Nominal ID	0.265 in
Nominal OD	0.457 in
Working Pressure at 70°F	250 psi
Working Pressure at 122°F	125 psi
Weight	11.4 kg 25.1 lb
Min. Bend Radius	1.10 in
Clamp Size	12.3 mm

Specifications

Brand	Bevlex®
Type	Beverage Hose
Series	172
Yarn Color	White

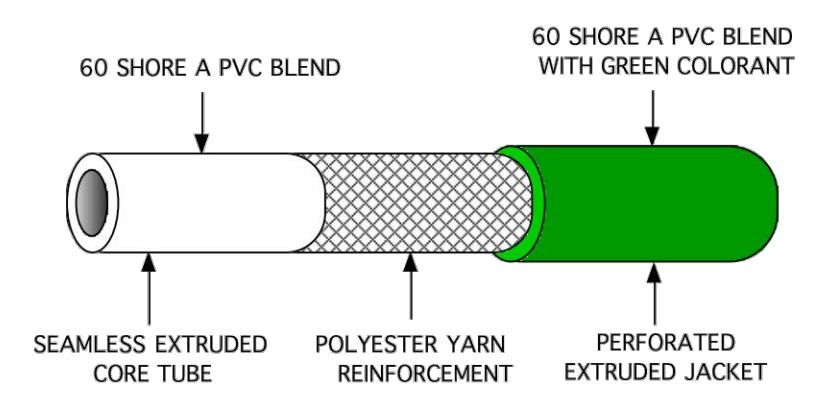
Note

Accuflex Beverage Transfer Products

Note: Tracer yarn color coding - substitute for "X": 0 - White.

CO₂ VENT HOSE
ACCUFLEX SERIES 375

"A FLEXIBLE LOW TEMPERATURE HOSE DESIGNED TO VENT EXCESS CARBON DIOXIDE GAS FROM BULK STORAGE SYSTEMS"



Dimensions: I.D. = 0.510" +/- 0.010"
O.D. = 0.813" +/- 0.015"

Pressure Capabilities: - 300 PSIG WP @ 70F
- MIN. 1200 PSI BURST @ 70F

Packaging: 300 Foot Coils

Material Performance: The same materials are used in a UL92 listed Fire Extinguisher Hose certified for use at -65F (-54C). The hose has been bent under laboratory conditions at -109F (-78C) without cracking.

Branding: White ink repeated every 3 feet

375-08 BY ACCUFLEX CO₂ VENT HOSE 1/2" ID 300 PSI WP @ 70F month year Canada date code time

PRELIMINARY TECHNICAL SHEET



ACCUFLEX INDUSTRIAL HOSE LTD.
MANUFACTURERS OF HOSE AND TUBING
DRAWN BY: K. DUNLOP DRAWING SERIES:
DATE: JAN. 11, 2012 SHEET 375

PRODUCT BULLETIN

UNISOURCE
your single source supplier

Series 4770
CO₂ Transfer Hose



Series 4770 thermoplastic hose is specially designed for the transfer of liquid and gaseous carbon dioxide (CO₂) for beverage applications. It is commonly used on small bulk delivery trucks as well as flexible lines from the restaurant wall-box to the liquid cylinders. Series 4770 hose is specially formulated to perform well in temperatures as low as -40°F, and the proprietary core tube is plasticizer free and FDA compliant. Our unique bonding process guarantees excellent kink resistance, and the proprietary "Tuff-Skin" cover provides for superior handling and abrasion resistance.

- Test Results**
- CGA 6.5 Compliant
 - CGA 6.6 Cold Bend Test Compliant
 - NFPA 55 Compliant
 - Leachate Resistant to Liquid CO₂

- Features**
- Plasticizer Free core tube
 - Core tube is FDA compliant
 - 100% Bonded Construction
 - Excellent kink resistance
 - Non-stick, low co-efficient of friction cover (75% better)
 - Superior abrasion resistant cover (6% better)

- Construction**
- Tube - Proprietary Polymer
 - Reinforcement - Polyester Braid
 - Cover - Proprietary Polyurethane ("Tuffskin")
 - Cover Color - Blue, Perforated

- Temperature**
- 40°F to +150°F (-109°F Intermittent)
 - 40°C to +66°C (-78°C Intermittent)
 - (Delta) Working length @ rated WPSt: ±2% max.

Part Number	Nominal I.D.		Maximum O.D.		Minimum Bend Radius		Maximum Working Pressure		Minimum Burst Pressure		Weight		Couplings
	in	mm	in	mm	in	mm	psi	bar	psi	bar	lb/ft	kg/100m	
4770-08	1/2	13	0.810	20	3.0	76	2,000	138	8,000	552	14.8	22.0	TW/RT

1-800-234-2566 8040 NE 33rd Drive Portland, OR 97211

2/2014



RAD-0102-6
REMOTE CO₂ STORAGE SAFETY 3 ALARM



Our #1 CO₂ Remote Storage Safety Device

The Remote CO₂ Storage Safety 3 Alarm detects carbon dioxide (CO₂) levels in ambient air. This protects employees and guests from potentially hazardous gas concentrations. The RAD-0102-6 features audible and visual alarms that can trigger three individual relays. These relays can trigger third-party devices like exhaust systems and fire panels. Ensure the safety of your employees and guests as well as the compliance of your facility with the CO₂ Storage Safety 3 Alarm.

Features

- LCD display clearly indicates current CO₂ level in ppm or % and temperature
- 3 alarms/relays
- Relays can automatically control ventilation fans or signal a fire alarm panel
- Meets NFPA, IFC, and NBIC requirements
- Meets OSHA and NIOSH TWA standards
- IP54 Enclosure
- UL listed for compliance

Accessories

- CM-1026 | Dual Stroke Add-On Kit
- RAD-0104 | Additional Remote Display
- CM-1026-5-6 | CO₂ Storage Safety Strobe Tower
- SV-1026 | Solenoid Shut-off Valve

Applications

- Restaurant & Food
- Breweries and Wineries
- Beverage Dispensing
- Agriculture
- Safety

FUN FACT
The RAD-0102-6 not only meets the NFPA 55 and National Board Inspection Code, it also meets international codes such as United Kingdom (COSHH) and Australia AS5034 -2005 concerning installation and use of inert gases for beverage dispensing.

CO₂ Measurement Specialists Speak to a Technical Sales Expert 1.877.678.4259 | Sales@CO2meter.com

RAD-0102-6

Remote CO₂ Storage Safety 3 Alarm

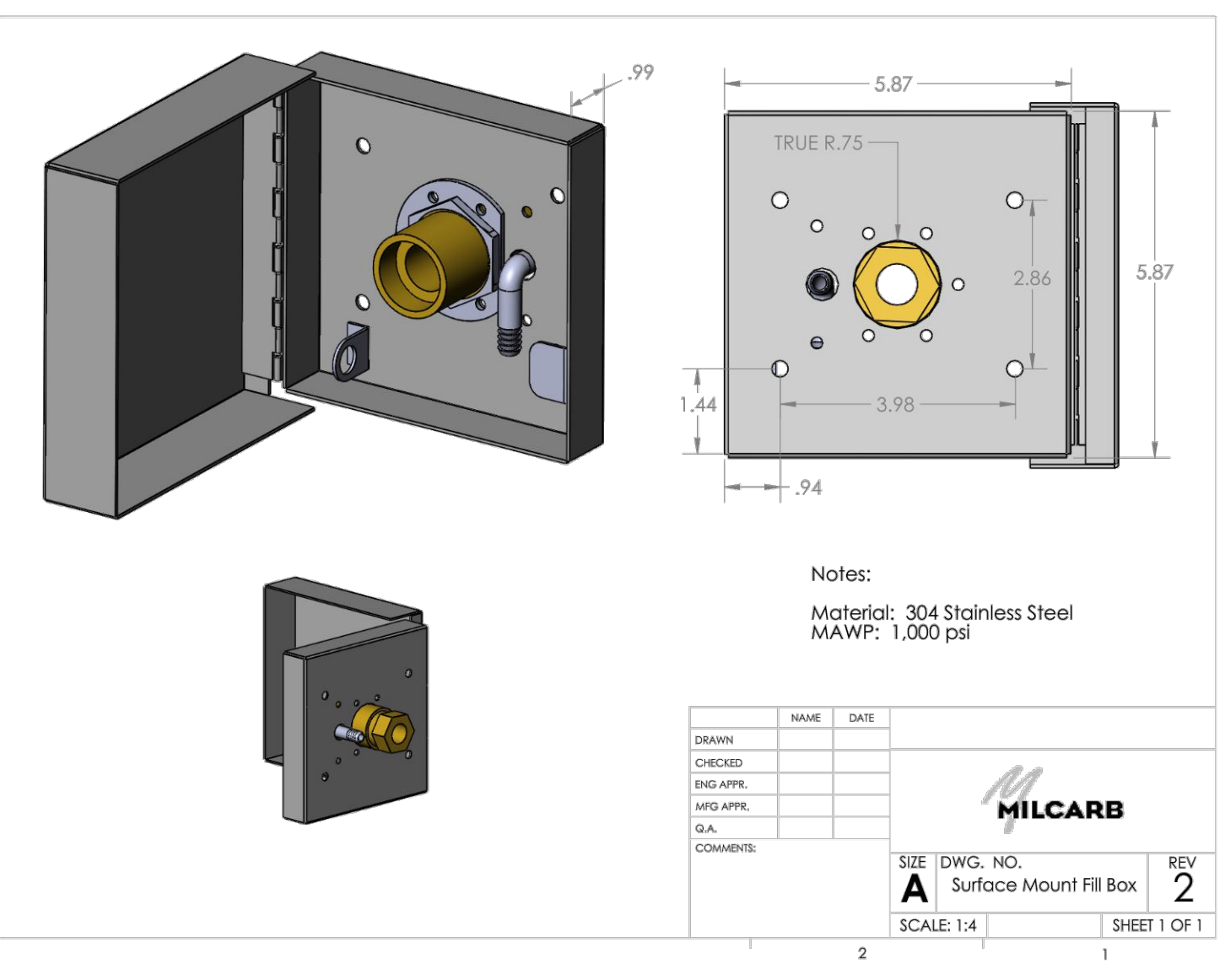
CO ₂ Measurement Range	0-5% (0-50,000 ppm)
CO ₂ Measurement	NDIR (Non-dispersive Infrared)
Alarms	5,000 TWA, 1.5% (user configurable), 3% (user configurable)
Measurement Interval	2 seconds (0.5 Hz)
Operating Temperature	32-122° F (0-50° C)
Calibration	Zero with Nitrogen or Factory Calibration
Connections	Standard RJ45
Sensor Life Expectancy	>15 years

Electrical and Mechanical Specifications

Power Supply	110-220 VAC 50/60 Hz to 12 VDC power adapter
Power Input	4.5-5.25 VDC
Power Consumption	3 Watts
Hard-Wired	24 VDC hard-wired option (cable included)
Output	4-20 mA

Alarms & Relays

Response Time	<60 seconds
Alarm Level	88 dB
Relay Power	Peak current <2A @ 30 VDC or 250 VAC, SPDT
Relay Color Coding	Red & White: Normally Open, Blue & White: Normally Closed



Notes:
Material: 304 Stainless Steel
MAWP: 1,000 psi

NAME	DATE
DRAWN	
CHECKED	
ENG. APPL.	
MFG APPL.	
I.A.	
COMMENTS	

MILCARB
SIZE DWG. NO. REV
A Surface Mount Fill Box 2
SCALE: 1:4 SHEET 1 OF 1



Call 1.877.678.4259
Email: Sales@CO2meter.com | Support@CO2meter.com
Web: CO2meter.com

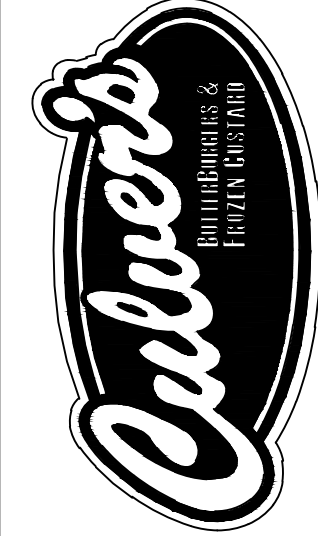
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List Updated: 1-4-2021

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CULVER FRANCHISING SYSTEM, LLC
METRO L - 2023
PROTOTYPE PLANS

Sheet Contents:
CO₂ SPECS

Project No. Metro L - 2023
Drawn By: R.K.
Date: 10/20/2024

Sheet
CO₂-2

