



LEGENDA SIMBOLI - FLUIDI		EN ISO 15723-1:2002
	Valvola - symbolo grafico generale (stesso DN della tubazione) <i>Stavka po opisu: 1/2" - 2-pozicijski zatvarač sa izlaskom, PN=10, 16, 25, 32, 40, 50, 63, 80, 100, 125, 160, 200, 250, 320, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3200, 4000, 5000, 6300, 8000, 10000, 12500, 16000, 20000, 25000, 32000, 40000, 50000, 63000, 80000, 100000, 125000, 160000, 200000, 250000, 320000, 400000, 500000, 630000, 800000, 1000000, 1250000, 1600000, 2000000, 2500000, 3200000, 4000000, 5000000, 6300000, 8000000, 10000000, 12500000, 16000000, 20000000, 25000000, 32000000, 40000000, 50000000, 63000000, 80000000, 100000000, 125000000, 160000000, 200000000, 250000000, 320000000, 400000000, 500000000, 630000000, 800000000, 1000000000, 1250000000, 1600000000, 2000000000, 2500000000, 3200000000, 4000000000, 5000000000, 6300000000, 8000000000, 10000000000, 12500000000, 16000000000, 20000000000, 25000000000, 32000000000, 40000000000, 50000000000, 63000000000, 80000000000, 100000000000, 125000000000, 160000000000, 200000000000, 250000000000, 320000000000, 400000000000, 500000000000, 630000000000, 800000000000, 1000000000000, 1250000000000, 1600000000000, 2000000000000, 2500000000000, 3200000000000, 4000000000000, 5000000000000, 6300000000000, 8000000000000, 10000000000000, 12500000000000, 16000000000000, 20000000000000, 25000000000000, 32000000000000, 40000000000000, 50000000000000, 63000000000000, 80000000000000, 100000000000000, 125000000000000, 160000000000000, 200000000000000, 250000000000000, 320000000000000, 400000000000000, 500000000000000, 630000000000000, 800000000000000, 1000000000000000, 1250000000000000, 1600000000000000, 2000000000000000, 2500000000000000, 3200000000000000, 4000000000000000, 5000000000000000, 6300000000000000, 8000000000000000, 10000000000000000, 12500000000000000, 16000000000000000, 20000000000000000, 25000000000000000, 32000000000000000, 40000000000000000, 50000000000000000, 63000000000000000, 80000000000000000, 100000000000000000, 125000000000000000, 160000000000000000, 200000000000000000, 250000000000000000, 320000000000000000, 400000000000000000, 500000000000000000, 630000000000000000, 800000000000000000, 1000000000000000000, 1250000000000000000, 1600000000000000000, 2000000000000000000, 2500000000000000000, 3200000000000000000, 4000000000000000000, 5000000000000000000, 6300000000000000000, 8000000000000000000, 10000000000000000000, 12500000000000000000, 16000000000000000000, 20000000000000000000, 25000000000000000000, 32000000000000000000, 40000000000000000000, 50000000000000000000, 63000000000000000000, 80000000000000000000, 100000000000000000000, 125000000000000000000, 160000000000000000000, 200000000000000000000, 250000000000000000000, 320000000000000000000, 400000000000000000000, 500000000000000000000, 630000000000000000000, 800000000000000000000, 1000000000000000000000, 1250000000000000000000, 1600000000000000000000, 2000000000000000000000, 2500000000000000000000, 3200000000000000000000, 4000000000000000000000, 5000000000000000000000, 6300000000000000000000, 8000000000000000000000, 10000000000000000000000, 12500000000000000000000, 16000000000000000000000, 20000000000000000000000, 25000000000000000000000, 32000000000000000000000, 40000000000000000000000, 50000000000000000000000, 63000000000000000000000, 80000000000000000000000, 100000000000000000000000, 125000000000000000000000, 160000000000000000000000, 200000000000000000000000, 250000000000000000000000, 320000000000000000000000, 400000000000000000000000, 500000000000000000000000, 630000000000000000000000, 800000000000000000000000, 1000000000000000000000000, 1250000000000000000000000, 1600000000000000000000000, 2000000000000000000000000, 2500000000000000000000000, 3200000000000000000000000, 4000000000000000000000000, 5000000000000000000000000, 6300000000000000000000000, 8000000000000000000000000, 10000000000000000000000000, 12500000000000000000000000, 16000000000000000000000000, 20000000000000000000000000, 25000000000000000000000000, 32000000000000000000000000, 40000000000000000000000000, 50000000000000000000000000, 63000000000000000000000000, 80000000000000000000000000, 100000000000000000000000000, 125000000000000000000000000, 160000000000000000000000000, 200000000000000000000000000, 250000000000000000000000000, 320000000000000000000000000, 400000000000000000000000000, 500000000000000000000000000, 630000000000000000000000000, 800000000000000000000000000, 1000000000000000000000000000, 1250000000000000000000000000, 1600000000000000000000000000, 2000000000000000000000000000, 2500000000000000000000000000, 3200000000000000000000000000, 4000000000000000000000000000, 5000000000000000000000000000, 6300000000000000000000000000, 8000000000000000000000000000, 10000000000000000000000000000, 12500000000000000000000000000, 16000000000000000000000000000, 20000000000000000000000000000, 25000000000000000000000000000, 32000000000000000000000000000, 40000000000000000000000000000, 50000000000000000000000000000, 63000000000000000000000000000, 80000000000000000000000000000, 100000000000000000000000000000, 125000000000000000000000000000, 160000000000000000000000000000, 200000000000000000000000000000, 250000000000000000000000000000, 320000000000000000000000000000, 400000000000000000000000000000, 500000000000000000000000000000, 630000000000000000000000000000, 800000000000000000000000000000, 1000000000000000000000000000000, 1250000000000000000000000000000, 1600000000000000000000000000000, 2000000000000000000000000000000, 2500000000000000000000000000000, 3200000000000000000000000000000, 4000000000000000000000000000000, 5000000000000000000000000000000, 6300000000000000000000000000000, 8000000000000000000000000000000, 10000000000000000000000000000000, 12500000000000000000000000000000, 16000000000000000000000000000000, 20000000000000000000000000000000, 25000000000000000000000000000000, 32000000000000000000000000000000, 40000000000000000000000000000000, 50000000000000000000000000000000, 63000000000000000000000000000000, 80000000000000000000000000000000, 100000000000000000000000000000000, 125000000000000000000000000000000, 160000000000000000000000000000000, 200000000000000000000000000000000, 250000000000000000000000000000000, 320000000000000000000000000000000, 400000000000000000000000000000000, 500000000000000000000000000000000, 630000000000000000000000000000000, 800000000000000000000000000000000, 1000000000000000000000000000000000, 1250000000000000000000000000000000, 1600000000000000000000000000000000, 2000000000000000000000000000000000, 2500000000000000000000000000000000, 3200000000000000000000000000000000, 4000000000000000000000000000000000, 5000000000000000000000000000000000, 6300000000000000000000000000000000, 8000000000000000000000000000000000, 10000000000000000000000000000000000, 12500000000000000000000000000000000, 16000000000000000000000000000000000, 20000000000000000000000000000000000, 25000000000000000000000000000000000, 32000000000000000000000000000000000, 40000000000000000000000000000000000, 50000000000000000000000000000000000, 63000000000000000000000000000000000, 80000000000000000000000000000000000, 100000000000000000000000000000000000, 125000000000000000000000000000000000, 160000000000000000000000000000000000, 200000000000000000000000000000000000, 250000000000000000000000000000000000, 320000000000000000000000000000000000, 400000000000000000000000000000000000, 500000000000000000000000000000000000, 630000000000000000000000000000000000, 800000000000000000000000000000000000, 1000000000000000000000000000000000000, 1250000000000000000000000000000000000, 1600000000000000000000000000000000000, 2000000000000000000000000000000000000, 2500000000000000000000000000000000000, 3200000000000000000000000000000000000, 4000000000000000000000000000000000000, 5000000000000000000000000000000000000, 6300000000000000000000000000000000000, 8000000000000000000000000000000000000, 10000000000000000000000000000000000000, 12500000000000000000000000000000000000, 16000000000000000000000000000000000000, 20000000000000000000000000000000000000, 25000000000000000000000000000000000000, 32000000000000000000000000000000000000, 40000000000000000000000000000000000000, 50000000000000000000000000000000000000, 63000000000000000000000000000000000000, 80000000000000000000000000000000000000, 100000000000000000000000000000000000000, 125000000000000000000000000000000000000, 160000000000000000000000000000000000000, 200000000000000000000000000000000000000, 250000000000000000000000000000000000000, 320000000000000000000000000000000000000, 400000000000000000000000000000000000000, 500000000000000000000000000000000000000, 630000000000000000000000000000000000000, 800000000000000000000000000000000000000, 1000000000000000000000000000000000000000, 1250000000000000000000000000000000000000, 1600000000000000000000000000000000000000, 2000000000000000000000000000000000000000, 2500000000000000000000000000000000000000, 3200000000000000000000000000000000000000, 4000000000000000000000000000000000000000, 5000000000000000000000000000000000000000, 6300000000000000000000000000000000000000, 8000000000000000000000000000000000000000, 100, 12500000000000000000000000000000000000000, 16000000000000000000000000000000000000000, 200, 25000000000000000000000000000000000000000, 32000000000000000000000000000000000000000, 400, 500, 63000000000000000000000000000000000000000, 800, 1000, 125000000000000000000000000000000000000000, 1600, 2000, 2500, 3200, 4000, 5000, 6300, 8000, 100, 12500, 16000, 200, 25000, 32000, 400, 500, 63000, 800, 1000, 125000, 1600, 2000, 2500, 3200, 4000, 5000, 6300, 8000, 100, 12500, 16000, 200, 25000, 32000, 400, 500, 63000, 800, 1000, 125000, 1600, 2000, 2500, 3200, 4000, 5000, 6300, 8000, 100, 12500, 16000, 200, 25000, 32000, 400, 500, 63000, 800, 1000, 125000000000000000000000000000000000000</i>	

	Valvola termostatica
	Valvola per terminali (stesso DN della tubazione)
	Rubinetto di scarico
	Rubinetto per prelievo campioni
	Valvola a galleggiante
	Ammortizzatore del colpo d'ariete
	Valvola di sicurezza (a e pressione di taratura indicati su schema)
	Valvola di scarico termico ad azione positiva
	Rubinetto manometro campione a tre vie completo di manometro
	Valvola di non ritorno
	Filtro (segno grafico generale)
	Filtro a cartuccia con scarico manuale
	Filtro disassorbibile ispezionabile con elemento magnetico
	Filtro a Y (diametro fori maglia cestello indicato su schema)
	Giunto anilinducivo
	Flessibile di collegamento (DN indicato su schema)
	Resistenza elettrica ad immersione
	Cavo scaldante autoregolante
	Scambiatore di calore a piastre
	Scambiatori di calore (segno grafico generale)
	Stabilizzatore e riduttore di pressione (triangolo piccolo = alta pressione)
	Disconnettore idrico
	Gruppo di riempimento
	Dispositivo di sfogo aria
	Dispositivo di sfogo aria manuale
	Dispositivo di sfogo aria automatico
	Scarico aperto
	Scarico convogliato con valvola
	Elettropompa / Elettropompa a velocità variabile con inverter
	Elettropompa generale
	Vaso di espansione a membrana omologato I.S.P.E.S.L. (capacità e portata indicate su schema)
	Vaso di espansione autopesante/autizante (capacità indicate su schema)
	Compensatore idraulico (attacchi stesso DN della tubazione) Diametro dei fori a DN attacchi x 2,4 Consiglio di valvola automatica di sfogo aria, valvola di scarico, elemento defangatore, 1° 2° terminali e colorazione chiara come DPR 41/2003

	Sonda di pressione
	Pressostato
	Pressostato di blocco
	Pressostato di minima
	Pressostato di massima
	Termometro
	Sonda di temperatura
	Sonda di temperatura da canale
	Sonda di temperatura esterna
	Sonda di temperatura e umidità esterna
	Termistato
	Termistato di inserzione
	Termistato di sicurezza
	Bilmetro

	Sonda di CO2
	Indicatore di livello visivo
	Sonda di livello
	Sonda di livello radar
	Interruttore di livello a galleggiante
	Livellostato
	Misuratore di portata
	Misuratore di portata a turbina
	Misuratore di flusso
	Flussostato
	Interruttore di finecorsa o stato
	Sonda irraggiamento solare
	Conducimetro
	Sonda di umidità relativa
	Sonda di umidità relativa da canale
	Umidostato
	Sonda combinata di temperatura e di umidità relativa da esterno
	Sonda combinata di temperatura e di umidità relativa da canale
	Gruppo di contabilizzazione energia termica e figuratura
	Sonda di temperatura e di umidità relativa da canale
	Sonda di temperatura
	Pannello per sonda di temperatura

LEGENDA SIMBOLI - REFRIGERAZIONE		ISO 9011
	Compressore / Compressore inverter (segno grafico generale)	
	Compressore a vite / Compressore a vite inverter	
	Condensatore (segno grafico generale)	
	Condensatore raffreddato ad acqua	
	Evaporatore (segno grafico generale)	
	Evaporatore raffreddatore di liquidi	
	Organo di espansione (margato piccolo - alta pressione)	
	Torre evaporativa (scambiatore)	
	Vasca di raccolta torre evaporativa	
	Essiccatore per aria compressa	

	M/R Acqua refrigerata temperata termovettore
	M/R Acqua refrigerata termovettore
	M/R Acqua gelida termovettore
	M/R Acqua calda / refrigerata termovettore
	M/R Acqua di Pozzo
	M/R Acqua di torre evaporativa
	M/R Acqua glicolata solare termico
	Acqua di espansione
	Gas e liquido refrigerante
	Isolamento termico

Chiave di lettura TUBAZIONI

Marche
 (diametro esterno diametro interno) oppure (diametri) x (spessore)
 (calorelatore isolamento termico secondo DIN 41263) oppure
 (spessore in mm)

Tutti i diametri delle tubazioni ridotti negli schizzi con la notazione DN... indicano il diametro nominale.

[illegible]

Base	TUBAZIONI in RAME per GAS REFRIGERANTE COIBENTATE Realizzate in rame Completate di coibulazione in polietilene a salatura chiusa spessore = 10 mm in rapporto alla pressione nominale, spessore = max 10mm ±0.000 Conforme alla norma EN 12737-1
PER 1/2"	TUBAZIONI in POLIETILENE BASSA DENSITA' Pressione nominale 4.0 (5) temperatura = 20 °C Conforme alla norme UNI 7995-4 del 2004
PER PN10	TUBAZIONI in POLIETILENE ALTA DENSITA' Pressione nominale 10 (16) @ temperatura = 20 °C Conforme alla norme UNI 12521, UNI EN 12521, ISO 11058, ISO 11058, UNI EN 1602
PER PN16	TUBAZIONI in POLIETILENE ALTA DENSITA' Pressione nominale 16 (25) @ temperatura = 20 °C Conforme alla norme UNI 12521, UNI EN 12521, ISO 11058, ISO 11058, UNI EN 1602

[illegible][illegible]

FC Tutti Tutti Tutti	Dimensioni comuni	mm	A	750	750	750	1000	1000	1000			
	Dimensionamento del convertitore indotto a rubinazione grafico:											
	Tavola	[2, 3, 4, 5]										
Tutti Tutti Tutti	Dimensionamento del convertitore indotto a rubinazione grafico:											
	Tavola	[2, 3, 4]										
	Tutti	[2, 3, 4]										
Modello Avenir FC1 / FC2 da esprire, legge												
		32	42	62	82	122						
VENTILATORE CENTRIFUGO MASSA PREVALENZA CON VENTILATORE CENTRIFUGO 3 A VELOCITÀ o INVERTER ELETTRICO 2 VITI Batteria a 4 lampi Ventilatore a 5 lampi												
VENTILATORE												
	Ventilatore	1	2	3	4	5						
Velocità (dBm)												
	Portata (450°C/20°/30°)	AW	3,08	1,59	1,56	2,94	4,32	3,32				
	Portata (450°C/20°/30°)	AW	0,91	0,47	0,46	0,86	1,29	1,00				
	Portata aria	m³/h	120	60	58	108	160	120				
	Portata acqua	m³/h	120	60	58	108	160	120				
	Portata sonora	dB(A)	43	37	37	46	40					
Velocità (dBm)												
	Portata (450°C/20°/30°)	AW	1,69	0,67	0,32	0,29	4,17	5,78				
	Portata (450°C/20°/30°)	AW	0,51	0,19	0,09	0,08	1,28	1,81				
	Portata aria	m³/h	225	84	42	40	602	700				
	Portata acqua	m³/h	225	84	42	40	602	700				
	Portata sonora	dB(A)	57	51	34	34	57	56				
Puntata capace di progetto												
	Collegamento con 3 fili	Ø	mm	285	460	565	715	1000				
		Ø	mm	150	250	350	450	600				
Dimensioni												
	mm	A	370	600	800	1000	1000	1000				
	mm	B	370	600	800	1000	1000	1000				
	mm	C	370	600	800	1000	1000	1000				
	mm	D	370	600	800	1000	1000	1000				

[illegible]

- **Costituito da:**
 - regolatore completo a barra DIN
 - centralina alimentatore su microprocessore 230 VAC
 - sonda di temperatura acqua
 - sonda di temperatura aria
- **Completato dei seguenti I/O**
 - 2 canali per sonda ventilatore 2 velocità 230 VAC
 - comando motore ventilatore 0-10V
 - comando per sonda di temperatura acqua
 - ingresso per sonda temperatura acqua cassa collegamento BUS di sistema BMS

PONDA PASSIVA DI TEMPERATURA AMBIENTE CON POTENZIOCONTROLO DI CORREZIONE +/-

Con le seguenti funzioni:

- temperatura ambiente base +/- 3°C (da configurare)
- misura temperatura ambiente mediante sonda dialogo via BUS con i BMS e con i relative regolatori per ventiloventilatore

[illegible][illegible]

	CON FUNZIONAMENTO A PULSILLO DIRETTAMENTE DALLA PRESSIONE CON LUNGO VANTAGGIO ECONOMICO Confezione di 10 lavatergitori e 30 getti 30 lavatergitori e 30 getti in confezione separata Funzione di lavaggio on/off della portina rotonda Garanzia: 3 anni 10 m.c.a. 10 m.c.a.
VTP	Dimensionamento indicato sull'abbinato grafico: (dati nominali) ... 8H MAX ... 8H ... 8H ... 8H MAX ... 8H

[illegible]

	REALIZZAZIONE DELL'INTERVENTO NUOVO POLO CIVICO RIQUALIFICAZIONE URBANA DEGLI SPAZI ESTERNI ADIACENTI																									
	ASSOCIAZIONE TEMPORANEA DI PROFESSIONISTI E SOCIETÀ DI INGEGNERIA COORDINAMENTO PROGETTUALE 3+ PROGETTI S.r.l corso Re Umberto 48, Torino Ing. Antonio PRESICCE PROGETTO ARCHITETTONICO DAP STUDIO Arch. PIERPA DANELLI Arch. DIENA SACCO 3+ PROGETTI S.r.l Ing. Antonio PRESICCE Ing. Carlo ROSSI Arch. Andrea TOMASI PROGETTO STRUTTURE 3+ PROGETTI S.r.l Ing. Diego ERARDI PROGETTO IMPIANTI MECCANICI - EGE EGE INGEGNERIA - Grubaud Caghi Zittori Associati Ing. Antonio CUCCHI PROGETTO IMPIANTI ELETTRICI COLLETTI INGEGNERIA Ing. Giorgio COLLETTI GEOLOGO Dott. geol. Ugo DE LA PIERRE GIOVANE PROFESSIONISTA 3+ PROGETTI S.r.l Arch. Sara SABIA COORDINAMENTO SICUREZZA IN FASE DI PROGETTAZIONE 3+ PROGETTI S.r.l Ing. Antonio PRESICCE <table><tr><td></td><td>6</td><td></td><td></td></tr><tr><td></td><td>5</td><td></td><td></td></tr><tr><td></td><td>4</td><td></td><td></td></tr><tr><td></td><td>3</td><td></td><td></td></tr><tr><td>20.11.2023</td><td>1</td><td>REVISIONE PROGETTO ESECUTIVO</td><td></td></tr><tr><td>26.10.2023</td><td>0</td><td>EMISSIONE PROGETTO ESECUTIVO</td><td></td></tr></table>		6				5				4				3			20.11.2023	1	REVISIONE PROGETTO ESECUTIVO		26.10.2023	0	EMISSIONE PROGETTO ESECUTIVO		COMUNE DI MALANATE (VARESE) Il Responsabile dei Progetti Arch. Daniela GALLI ESECUTIVO SCALA: 1:50 FORMATO: DATA: 26.10.2023 TITOLO: IMPIANTI MECCANICI Climatizzazione Pianta P1 WORK FILE: MEC_TAV_20
	6																									
	5																									
	4																									
	3																									
20.11.2023	1	REVISIONE PROGETTO ESECUTIVO																								
26.10.2023	0	EMISSIONE PROGETTO ESECUTIVO																								