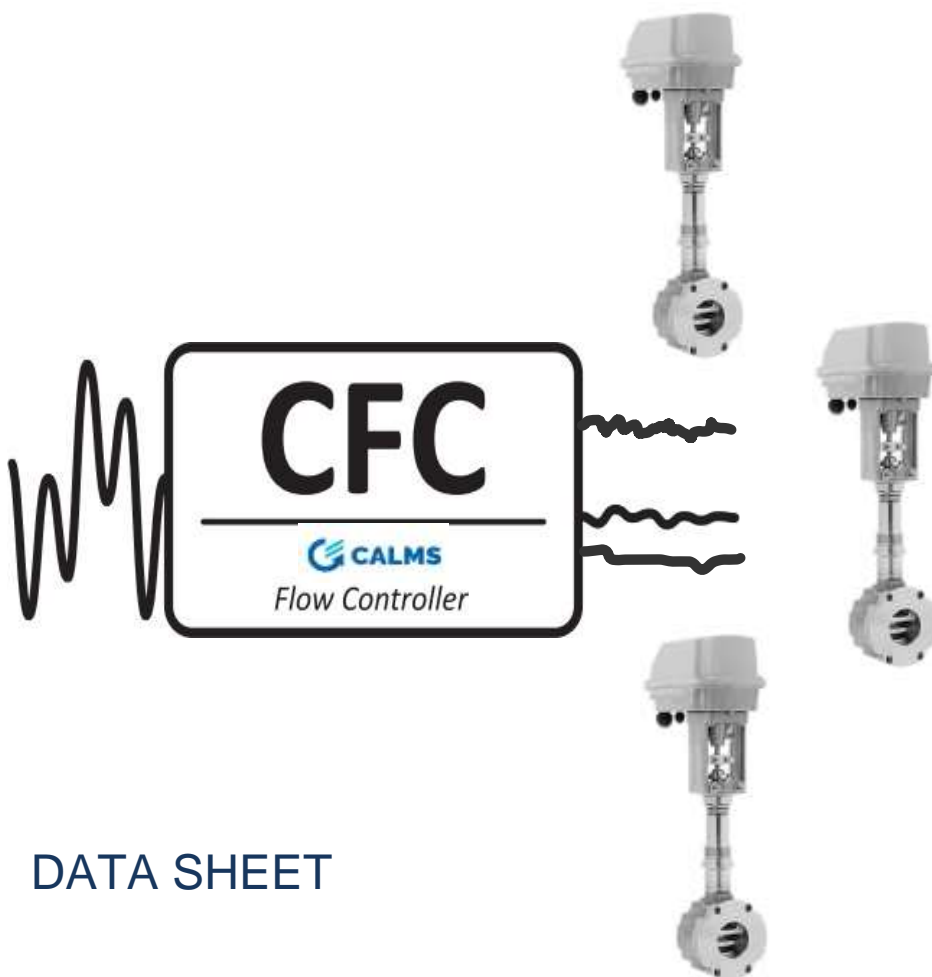


CFC

CALMS FLOW CONTROLLER

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Optional kit for CALMS CAL-PM-x



DATA SHEET

CALMS FLOW CONTROLLER - CFC kit

CFC flow controller 3 in 1: Flow-controller - Compressor controller with EMCS option - Remote Energy Management and Flowmeter

Offering compressed air control with stable and low pressure, complete air management, Alarming, Reporting, Data logging.

Motor valve for control and switching of neutral through to highly aggressive media in process engineering, chemical industries and for plant equipment.

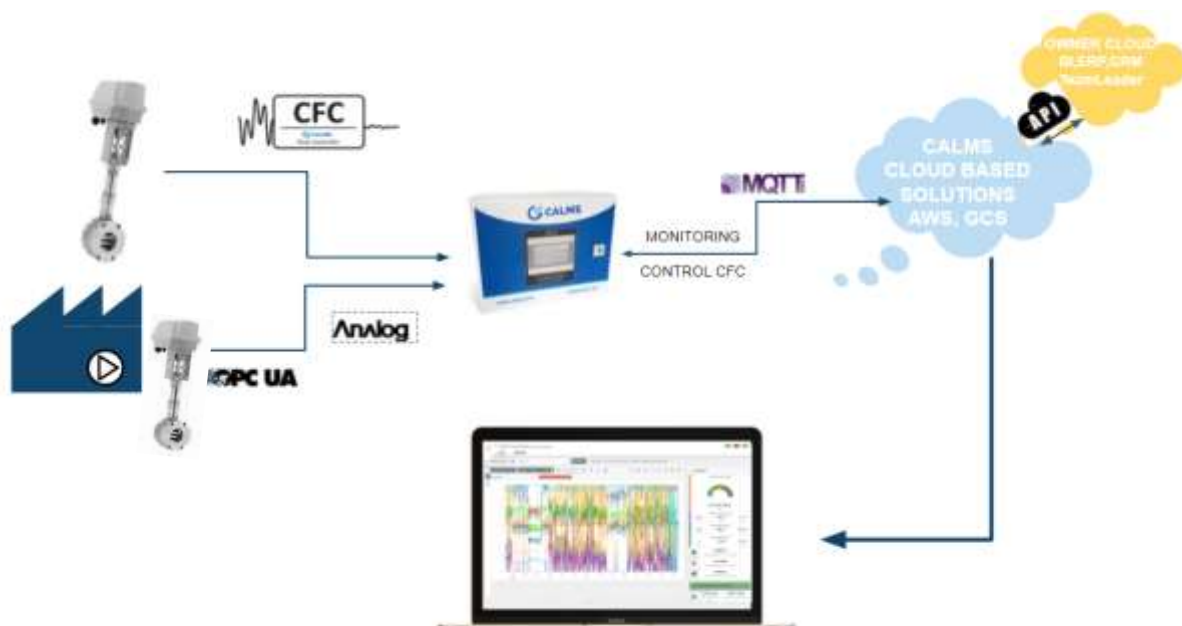
Benefits of CALMS Flow Controller CFC

- Average SAVINGS 6%, possible savings 10% or more !
- Simplified electrical regulation valve with special designed disc valves
- Isolates Supply side (Compressors) from Demand side (peaks)
- Easy to install as many as you need for multiple production lines
- Saves Compressed Air Energy through reduction in Artificial Demand
- CFC flow controllers are measuring flow and pressure
- Online monitoring - CFC is the only device that has online monitoring and compressor control integrated
- Remote monitoring and control
- Ramped start opening for ensuring dry air
- Reduces leakages losses in departments with shut-off function
- Enhances useful storage capability
- Reduces unload period of compressors
- Ensures LOW and constant (stable) air pressure different for each production line
- Easy Setting the Optimum Plant Pressure on CALMS with online trending
- Pressure set point resolution: 0.08 bar (1 psig)
- Pressure control in the range of: 2-40 barg / 30- 580 psig
- Fail safe operation

Features

- Multiple valves connect to one CAL-PM-x control box
- All CFC valves come with flow calibration option
- Bi-directional also as back-pressure controller
- Control based on flow or pressure
- Space saving wafer type construction
- Easy installation by customer
- Lowest possible size and weight
- No dry air needed for operation
- Low operation noise level (quiet operation)
- Self-adaption
- Operating pressures up to 40 bar (580psi)
- Control of high differential pressures with small actuators
- Programmable pressure setpoints schedules for multiple CFC valves

CALMS - Compressed Air Management System - Process diagram CFC



CFC is installed somewhere inside the factory.

All measured data will be sent to the CALMS – PM by analog 4...20mA signal.

CALMS – PM has an antenna, which allows data transmission to the CALMS virtual cloud, if connection is established.

Data inside the cloud will be sent to the CALMS platform, where data are shown in graphic or numerical form. That allows you to analyze your compressed air system.

CFC Model Specification

Model	Description	Pipe diameter	Design Flow	Design Pressure	Pressure SP resolution
		mm / inch	m3/min	Bar / PSI	Bar /PSI
CFC-50	CALMS Flow Controller DN50 (2") with CALMS online connection	DN50 / 2"	2-25	10 / 145	0.05 / 1
CFC-65	CALMS Flow Controller DN65 (2 ½") with CALMS online connection	DN65 / 2.5"	2-34	10 / 145	0.05 / 1
CFC-80	CALMS Flow Controller DN80 (3") with CALMS online connection	DN80 / 3"	5-45	10 / 145	0.08 / 1
CFC-100	CALMS Flow Controller DN100 (4") with CALMS online connection	DN100 / 4"	5-89	10 / 145	0.08 / 1
CFC-150	CALMS Flow Controller DN150 (6") with CALMS online connection	DN150 / 6"	5-120	10 / 145	0.08 / 1
CFC-200	CALMS Flow Controller DN200 (8") with CALMS online connection	DN200 / 8"	12-177	10 / 145	0.08 / 1

Technical Information Valve

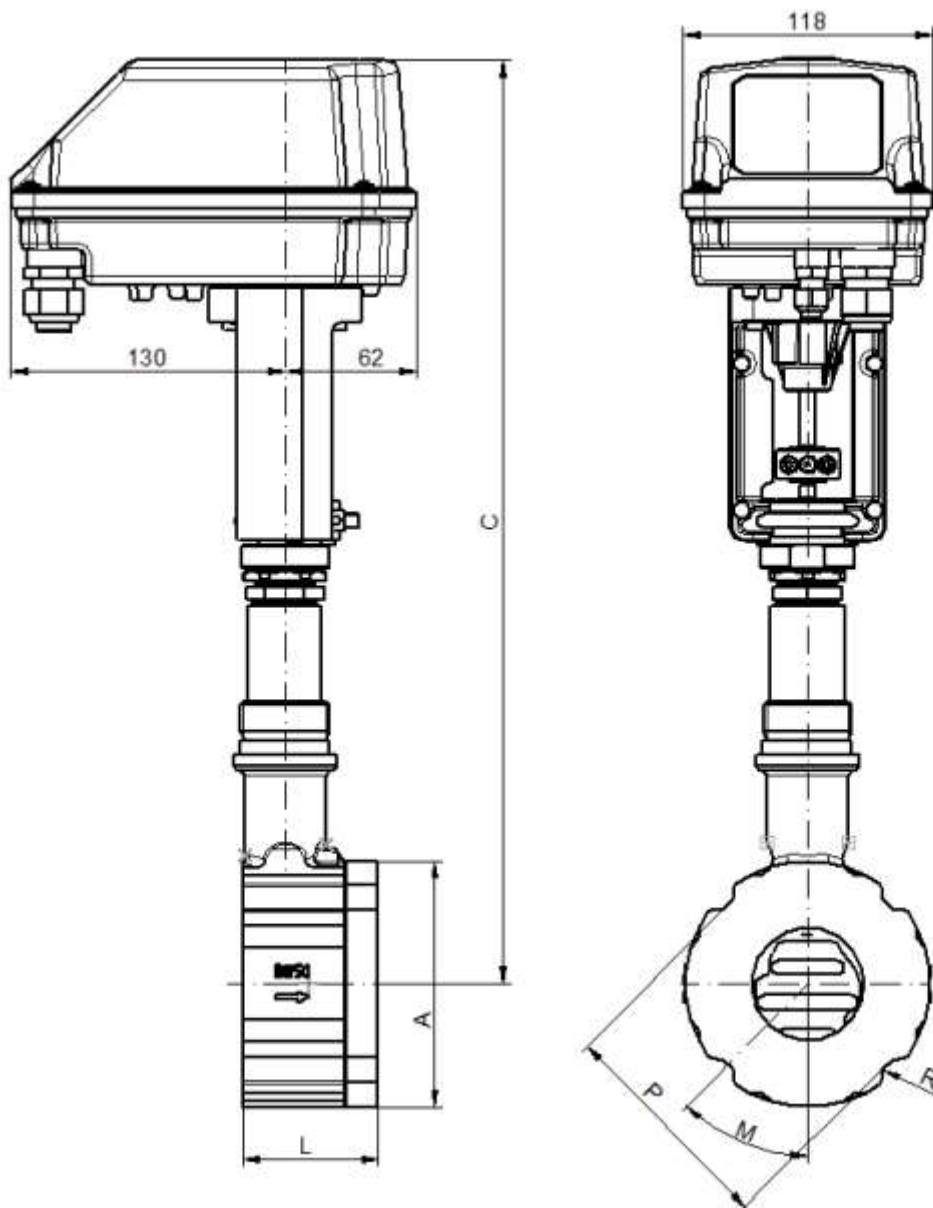
Design	wafer-type design for flanges acc. DIN EN 1092-1 form B
Nominal Sizes	DN 50 - 200, 2" - 8"
Nominal pressure acc. DIN 2401 for flanges with facing type B	PN 40 DN 50 - DN 150
Rangeability	30 : 1
Temperature	from -60°C up to +350°C
Leakage Rate (% of Kvs-value)	sliding unit STN2 < 0,0001
Specific leakage rate shaft and body sealing	ISO FE-BH-CC3-SSA0-t(-40°C/+350°C) - PN40-ISO 15848-1

NOTE: All CFC kit are designed and calculated based on application reference condition !

Technical Information CA-Actuator

Function	Control			
Motor type	CA24C	CA260C	CA24C-R	CA260C-R
Mains connection	24V AC/DC	90-260V AC	24V AC/DC	90-260V AC
Set point range	(0)2-10V / (0)4-20mA			
Feedback	(0)2-10V / (0)4-20mA			
Limit switch	2			
Potentiometer feedback	-			
Max. switching capacity	24V AC/DC 200 mA			
Actuating speed	1.5 / 2 / 3 s/mm (Standard: 2 s/mm)			
Safety functions	Monitoring of tensile force, set point, temperature of the electronics, etc.			
Diagnostic functions	Storage of motor and total operating time, temperature and directional classes, etc.			
Fail Safe position	-	-	freely adjustable	
Load	500 Ω for current set point / 95 k Ω for voltage set point			
Max. input	13 W	12 W	13 W	12 W
Input heating resistor	10 W			
Starting current heating resistor	6 A	2,5 A	6 A	2,5 A
Actuating power	800 N			
Protection class (EN 60529)	IP 65			
Adm. Ambient temperature	-10°C to +60°C			
Duty cycle	100%			

Dimensions and Weights



DN	A	C	L	Stroke	Weight kg
15	64	410	56	6	4
20	72	415	56	6	4
25	82	420	56	6	5
32	89	425	56	6	5
40	99	430	56	6	5
50	116	440	64	8	7
65	138	447	68	8	8
80	153	457	70	8	9
100	184	470	75	9	13
125	212	485	80	8,5	15

Dimensions in mm

Order codes and information

Order code	Description
CFC-50-KIT	CALMS Flow Controller Disc Valve -pipe DN50, Regulation range 2-40 bar,max 42 bar resolution 0.05 bar, range 2-25 m3/min, without on-off bypass valve, CALMS connection
CFC-65-KIT	CALMS Flow Controller Disc Valve pipe DN65, Regulation range 2-40 bar, max 42 bar resolution 0.05 bar, range 2-34 m3/min, without on-off bypass valve, CALMS connection
CFC-80-KIT	CALMS Flow Controller Disc Valve pipe DN80, Regulation range 2-40 bar, max 42 bar resolution 0.05 bar, range 5-45 m3/min, without on-off bypass valve, CALMS connection
CFC-100-KIT	CALMS Flow Controller Disc Valve,pipe DN100, Regulation range 2-40 bar, max 42 bar resolution 0.05 bar, range 5-89 m3/min, without on-off bypass valve, CALMS connection
CFC-150-KIT	CALMS Flow Controller Disc Valve, pipe DN150, Regulation range 2-40 bar,max 42 bar resolution 0.05 bar, range 8-120 m3/min, without on-off bypass valve, CALMS connection

What is inside kit ?

Kit includes: special electric disc valve DN50-150 flange type with electric positioner assembly , pressure sensors and junction box to connect to existing CALMS CAL-PM-X base via EtherCAT with calibration and control software. Full close function up to 40bar.



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