


*) Minimum clearance required to disassemble the actuator

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Type 3256-7 Pneumatic Control Valve		OSCHATZ GmbH 45028 Essen		Series:	3250				
Designation/Type:		Customer:		Type:	3256				
1882609 0	01876A000 NICICO	0064151		Nominal size:	DN 100				
Order no.:	Project:	Customer's No.		Nominal pressure:	PN 100				
225TK001-LCV-02	009	20130098/01876A000		Flange style:	B1 DIN EN 1092-1				
Tag no.:	Pos.:	Customer spec. No.:		Actuator Type:	3277				
SAMSON AG • MESS- UND REGELTECHNIK D-60314 Frankfurt Phone +49 69 4009-0 Weismüllerstraße 3 Fax +49 69 4009-1507 Supplier/manufacturer:				01	2013-03-01	V74	Tny	Actuator size cm ² :	350
				01	2013-02-28	V74	Tny	Weight (kg) ~:	137
				00	2013-02-26	V74	Tny	All dimensions in mm	
				Rev.:	Date:	Dept.:	Created:	Scale: not to scale	

Quote/order no.: 1882609

Customer: Oschatz GmbH. Essen

Project: 20130098/01876A000

Date: 14.06.2013

Data entered by: v147/dn



Valve Sizing Specialist Version 2.0f

Item no.: 009

Tag no.:

225TK001-LCV-02

Process medium: Water

State of medium at inlet:

liquid

Process and medium data

			Case 1	Case 2	Case 3
Flow	W	[kg/h]	15000	1000	10000
Inlet pressure	p1	[kPa(g)]	3200	6000	6000
Outlet pressure	p2	[kPa(g)]	100	20	100
Inlet temperature	T1	[°C]	239	276	276
Inlet density	rho1	[kg/m³]	815	757	757
Vapor pressure	pv	[bar(a)]	32.9	60.4	60.4
Critical pressure	pc	[bar(a)]	221	221	221
Inlet viscosity	eta	[mPas]	0.11	0.095	0.095
Outlet vapor content	xd2	[%]	23.95	34.56	32.27
spec. Volume	v2	[m³/kg]	0.83	1.42	0.83

Results and factors

Valve coeff. calculated	Kv	[-]	10	0.45	4.5
Min req. size	Req. DN	[mm]	132.6	53.9	125.6
Outlet velocity	w	[m/s]	105.47	17.45	94.6
SPL (VDMA 24422 mod.)	LA *	[dB(A)]	70.2	61.8	75.7
Flow condition			Flashing	Flashing	Flashing
relative travel	T	[%]	95.5	25	71.7
Different. pressure ratio	xF	[-]	273.85	97.52	96.22
FL value	FL	[-]	0.75	0.74	0.74
xFmr value	xFmr	[-]	0.7	0.7	0.7
Valve style factor	Fd	[-]	0.48	0.16	0.42
xFz value at capacity	xFz	[-]	0.39	0.49	0.42
Piping geometry factor	FP	[-]	1	1	1
Reynolds num. factor	FR	[-]	1	1	1
Valve Reynolds num.	ReV	[-]	1680267	203575	1719626

Valve data

Body type	Angle Valve		Series	3250
Valve coefficient	Kvs	10	Type	3256
Nominal size	DN	[mm]	Body material	WN 1.0619
Pressure ratings	PN	100	Trim material	4112 / S44003
Travel	S	[mm]	Plug stem material	1.4404
Seat bore	SB	[mm]	Noise reduction	PP
Stem diameter	Sd	[mm]	Characteristic	Equal percent. 50:1
Packing	Graphite (10)		Flow direction	FTC
Sealing	Metal (2)		Balanced	Without (0)
Bonnet	Standard		Leakage rate	IV

Pipe data

Type of pipe	Steel	Pipe insulation	thermal	D1 [mm]	40	D2 [mm]	200
cR [m/s]	5100	rho [kg/m³]	7800	di [mm]	199.1	s [mm]	10

Actuator data

Type		3271	Fail safe act.	stem extends	
Diaphr. area	A	[cm²]	350	psO [bar]	
				2.1 ... 3.3	
				psu [bar]	
				4	
(Defaults: p1max [kPa(g)]	6699.68	p2min [kPa(g)]	-0.32	t1max [°C]	290

Actuator results

req. act. force	Fa req.	[kN]	0.65	req. diff. psu-ps100	d ps [bar]	0.69
max. act. force	Fmax.	[kN]	42.11	Actuator force	Fa [kN]	7.35
max. dp on plug	d pmax	[bar]	77.46	Close safety factor	Fa/Fa req. (SF)	11.24
req. start bench range	ps0req.	[bar]	0.21			

* The calculated sound pressure level cannot be guaranteed because of the pipe insulation.

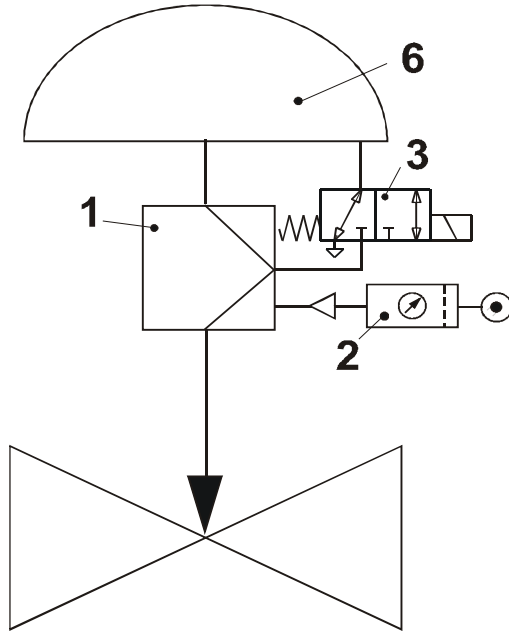


Verrohrungsplan / Hook up No.
Plan 05- 01

0501

Datum/ Date:	30.09.2013
Name:	OSCHATZ GmbH
SAMSON No:	1882609 6
Project:	20130098/01876A000
Rev.:	

Rev.: 13.11.08 Wey



1	Count
Pos.	Tag No.
9	225TK001-LCV02

Pos	Stck.	Bezeichnung	Typ / Fabr.	pn. Anschl.	Sachnr.
Item	Qty.	Description	Type / Manuf.	pneu. Con.	Part No.
1	1	Stellungsregler/ Positioner	3730-3		3710072
2	1	Zuluftstation/ Air set	4708-53		1604715
3	1	Magnetventil/ Solenoid valve	NORGREN Type 2401109/4261		3701352
3.1		Magnetventil/ Solenoid valve			
4		Drossel/ Throttle valve			
5		Schnellentlüfter/ Quick exhaust			
6	1	Antrieb/ Actuator	3277/ 350cm ² / SAMSON		1010623
7		Verblockrelais/ Lock up valve			
8		Pneumatikventil / Pneumatic valve			
9		Volumenverstärker/ Booster			
10					
11					
12		Pneu. Anschlußverschraubung / Pn. Connection			
13		Ausblaseschalldämpfer/ Vent Filter			
14		Filter/ Filter	IP xx		
Rohr/ Pipe		Größe/ Size	Dimensions	Material	
			[cm] [inch]		
Fitting					
Stellzeit/ Stroking time		Bewegungsrichtung/ Direction	100 ... 0%	0....100%	ON/OFF mit Magnetventil (with Solenoidvalve)
		Vorgabe/ requested [s]			
		Gemessen/ measured [s]			

Funktion / Function