



E N G I N E E R E D A I R P R O D U C T S

CIRCULAR DIFFUSERS

LRS SERIES



LRS

SERIES

CIRCULAR DIFFUSERS

L SERIES



Application

Colman Air Distribution L series circular swirl diffusers constitutes a perfected solution to the problems of high comfort air conditioning of high rooms and in a wide variety of applications. It's simple and cost effective design, with adjustable blades and manual operation in five sizes provides an attractive solution to many air distribution requirements.

In the air conditioning of high rooms e.g. factories, exhibition halls, theatres or sports centres, energy saving requirements call for highly controlled air supply systems.

As there is usually a temperature difference between room and supply air, inertial and gravitational forces that have aerodynamic or thermodynamic effects, have to be taken into account in order to avoid the phenomena of draughts or low temperature areas. Consequently, when heating, the supply air has to be emitted into the room at a higher velocity and at a different angle than when cooling.

Description

Colman Air Distribution have developed the L series range of diffusers with the above task in mind, each outlet consists of a round metal nozzle body constructed from a pressed steel cylinder, with a wide, radially extended rim also available to utilise the Coanda effect. Each unit independent of size has a central mechanism of six blades which are manufactured in steel.

Fixings/Installation

The L series range of diffusers is suitable for installation in applications between 3.1 Metres and 30 Metres height and does not need to be mounted flush to the ceiling.

The diffuser will normally be installed for downward air flow, however, in special cases it is also suitable for installation with a sideways air flow.

Finish

The L series circular outlet is available in a wide variety of finishes including standard BS and RAL powder coating.

Please refer to the product coding for a list of standard finishes. Special finishes are available on request.



Installation of swirl diffusers in a printing office.

JCMG CUPRA PROJECT



Colman's LQS tile replacement diffuser installed at JCMG Cupra, Aberdeen.

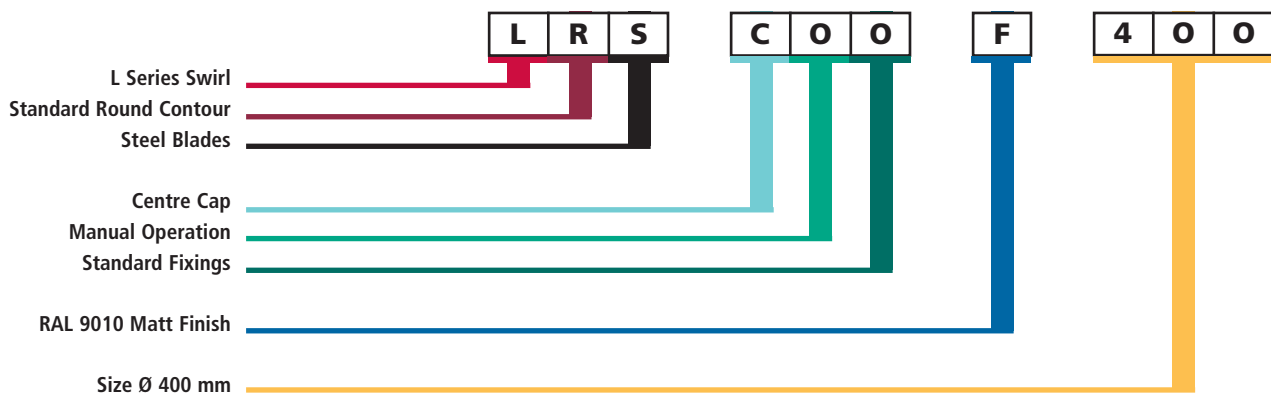
Options and Order Codes

Diffusers

1	2 - FRAME	3 - CORE	4 - ACCESSORIES	5 - ARRANGEMENT	6 - FIXINGS	7 - FINISH
L	R Standard Round V Extended Round Q Extended Square	S Steel Blade	0 None C Centre Cap (Supplied as Standard)	0 Manual	0 None	F RAL9010 Matt White Other standard colours available ; Matt Black B BS00E55 Gloss White C BS00E55 Satin White H BS00E55 Matt White D RAL9010 Gloss White E RAL9010 Satin White G RAL9006 Aluminium 3 Special Colours available on request 1

Note: The items shown in red print above and in the order code example below are the standard options for this product. Unless shown otherwise on any quotation or order the units will be supplied in this configuration. Both square and circular plenums are available for these products.

Example of Order Codes



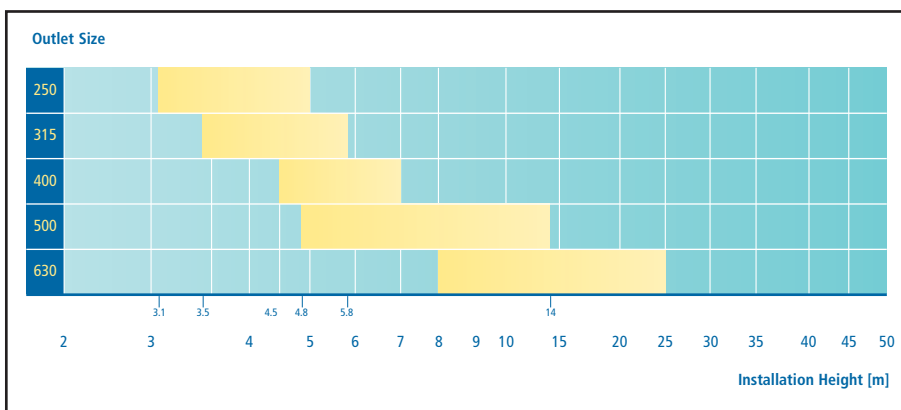
Selection Information

Depending on the installation height a specific diffuser should be chosen in order to guarantee optimum ventilation of the occupied area without draughts. The recommended selection is based on empirical measurements and laboratory tests. The outlets should be selected using the table below.

Operating range (min-max air volume per outlet)

Colman Air Distribution recommend specific air volume ranges for each size of diffuser. These are based on empirical measurements and laboratory tests.

Detailed selection information is on Page 5.

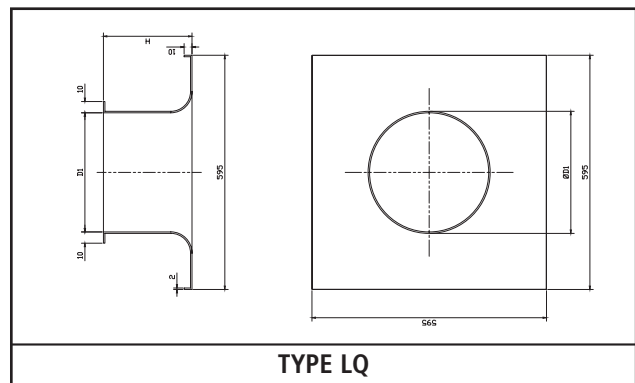


Diffuser Dimensions

STEEL BLADES

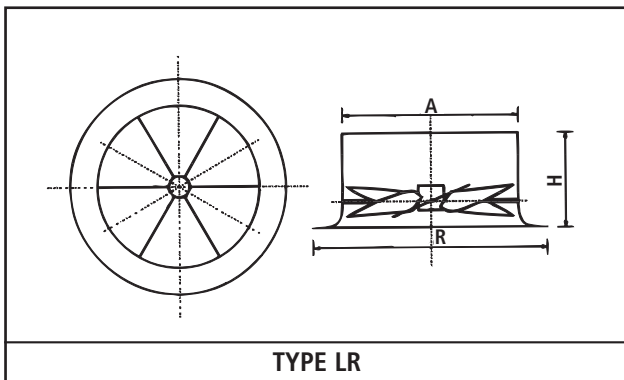
Type	Dimension	Unit	SIZE				
LRS (Standard Round)			250	315	400	500	630
LVS (Extended Round)							
Outside Connection Ø	A	mm	253	318	403	503	633
Outlet Height	H	mm	140	175	215	280	355
Standard Nozzle Ø	R	mm	330	415	535	660	830
Standard Unit Weight	-	kg	2,4	3,6	6,0	8,5	13,2
Extended Nozzle Ø	R1	mm	480	580	750	925	-
Edge rim Height (Extended)	K	mm	11	11	11	11	-
Extended Unit Weight	-	kg	2,7	3,8	6,3	8,9	-

SQUARE PANEL FRAME



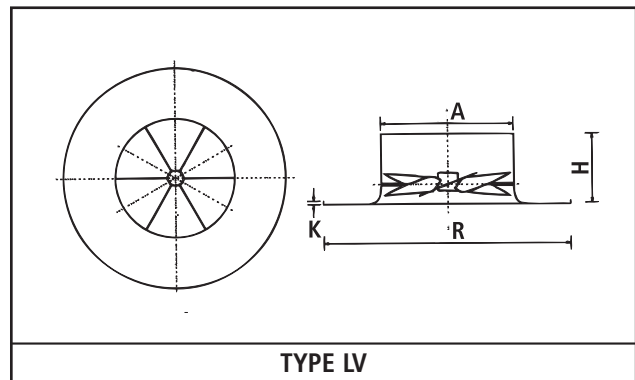
TYPE LQ

STANDARD ROUND FRAME



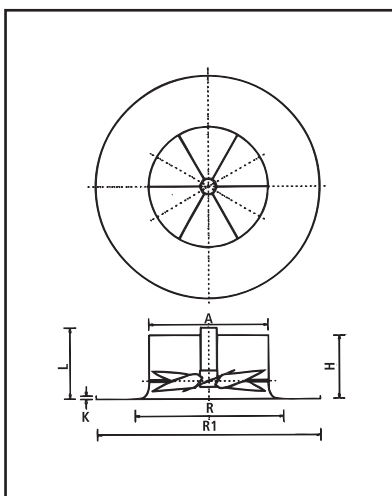
TYPE LR

EXTENDED ROUND FRAME



TYPE LV

STANDARD AND EXTENDED FRAME



Type	Dimension	Unit	SIZE				
LR-E (Standard Ring)			250	315	400	500	630
LV-E (Extended Ring)							
Outside Connection Ø	A	mm	253	318	403	503	633
Outlet Height	H	mm	140	175	215	280	335
Standard Nozzle Ø	R	mm	330	415	535	660	830
Overall Height	L	mm	278	288	293	318	355
Standard Nozzle Weight	-	kg	3,8	5,1	6,9	9,8	14,8
Extended Nozzle Ø	R1	mm	480	580	750	925	-
Edge rim Height (Extended)	K	mm	11	11	11	11	-
Extended Overall Height	L	mm	285	295	300	325	-
Extended Unit Weight	-	kg	4,1	5,3	7,0	10,2	-

Also Available:
LSR Series Circular

PERFORMANCE DATA

Diffuser Size	Air Volume (l/s)	Air Volume (m³/h)	Neck Velocity (m/s)	Horizontal Discharge				Vertical Discharge						
				Pd (Pa)	Throw (m)	NR	dBA	Pd (Pa)	NR	dBA	Throw (m)			
											+5K	+10K	+15K	+20K
250	98	353	2	29	1.7	31	34	3	24	18	34	—	—	—
	123	143	2.5	46	2.1	36	39	4	25	20	4.6	3.3	2.6	—
	147	529	3	66	2.5	40	43	6	25	22	5.8	4.1	3.3	2.9
	172	619	3.5	90	2.9	43	47	8	25	25	7.0	4.9	4.0	3.5
	196	706	4	117	3.3	47	50	11	25	29	8.1	5.7	4.7	4.0
	220	792	4.5	148	3.8	50	53	14	29	32	9.3	6.6	5.3	4.6
	245	882	5	183	4.2	53	56	17	35	35	10.4	7.4	6.0	5.2
	270	972	5.5	221	4.6	56	59	21	36	38	11.6	8.1	6.7	5.8
294	1058	6	264	5.0	58	61	25	39	41	12.8	9.0	7.4	6.4	
315	156	562	2	21	1.9	21	25	2	18	13	3.8	—	—	—
	195	702	2.5	33	2.4	27	31	3	18	14	5.0	3.5	—	—
	234	842	3	48	2.9	34	37	5	18	18	6.2	4.4	3.6	3.1
	273	982	3.5	65	3.4	38	42	6	18	22	7.5	5.3	4.3	3.7
	312	1123	4	85	3.9	42	46	8	22	26	8.8	6.2	5.0	4.4
	351	1264	4.5	108	4.3	46	50	10	25	29	10.0	7.1	5.8	5.0
	390	1404	5	134	4.8	49	53	13	29	33	11.3	8.0	6.5	5.6
	429	1554	5	162	5.3	52	56	15	33	36	12.5	8.8	7.2	6.2
468	1685	6	192	5.8	56	59	18	37	39	13.8	9.7	7.9	6.9	
400	252	907	2	21	2.3	23	27	1	10	10	4.2	—	—	—
	315	1124	2.5	33	2.8	29	33	2	13	12	5.5	3.8	—	—
	378	1361	3	47	3.4	33	37	3	13	16	6.8	4.8	3.9	3.4
	441	1588	3.5	64	4.0	38	42	4	15	20	8.2	5.8	4.7	4.1
	504	1814	4	84	4.5	41	45	6	20	24	9.6	6.8	5.5	4.8
	567	2041	4.5	106	5.1	44	48	7	25	29	11.0	7.7	6.3	5.5
	630	2268	5	131	5.7	47	51	9	28	32	12.3	8.7	7.0	6.1
	693	2495	5.5	159	6.2	50	54	11	32	35	13.7	9.7	7.9	6.5
756	2721	6	188	6.8	52	57	13	36	38	15.1	10.7	8.7	7.5	
500	392	1411	2	20	2.6	25	29	1	14	11	4.5	—	—	—
	490	1764	2.5	32	3.3	31	35	2	15	14	6.0	4.2	—	—
	588	2117	3	46	3.9	35	39	3	16	18	7.5	5.3	4.3	3.7
	686	2470	3.5	62	4.6	40	44	4	17	22	9.0	6.4	5.2	4.5
	784	2822	4	81	5.2	43	47	5	22	26	10.5	7.4	6.1	5.2
	882	3175	4.5	103	5.9	46	50	7	27	31	12.0	8.5	6.9	6.0
	980	3528	5	127	6.5	49	53	9	30	34	13.5	9.6	7.8	6.8
	1078	3881	5.5	154	7.2	52	56	10	35	37	15.1	10.6	8.7	7.5
1176	4233	6	183	7.8	54	59	12	38	40	16.6	11.7	9.5	8.3	
630	622	2239	2	20	2.8	27	31	1	10	11	5.2	—	—	—
	778	2800	2.5	31	3.5	33	37	2	10	15	6.9	4.7	—	—
	933	3359	3	45	4.3	37	41	3	16	20	8.3	5.9	4.8	4.1
	1088	3917	3.5	61	5.0	42	46	4	20	24	10.0	7.1	5.8	5.0
	1244	4478	4	80	5.7	45	49	5	24	28	11.7	8.2	6.7	5.8
	1400	5040	4.5	101	6.4	48	52	7	29	33	13.4	9.4	7.7	6.7
	1555	5598	5	125	7.2	51	55	8	32	36	15.0	10.6	8.7	7.5
	1710	6156	5.5	151	7.9	54	58	10	37	39	16.7	11.8	9.6	8.3
1866	6718	6	180	8.6	56	61	12	40	42	18.4	13.0	10.6	9.2	

PRODUCT RANGES

GRILLES	DIFFUSERS	LOUVRES
Linear Bar	Linear Slot	External
Ceiling	Louvre Face	Circular
Sidewall	Sidewall	Door
Floor	Perforated Face	Screens
Computer Floor	Circular	Penthouse
Cill	Swirl	Sand Louvres
Single & Double Deflection	Ceiling	Roof Louvres
Egg Crate	Sidewall Fixed & Adjustable	
Hinged Core	Jet Flow / Nozzle	
Door Transfer	Repus Displacement Ventilation	
Security and Prison		
Supply and Extract Valves		

BESPOKE SERVICE

We offer a bespoke design service where standard products do not fit the requirements of the build, we also supply products in special colours and finishes including bronze, brass, gold and chrome to meet Architectural design specifications.



ENGINEERED AIR
PRODUCTS

Colman Air Distribution Limited

Unit 7, High Carr Business Park
Decade Close, Newcastle-Under-Lyme
Stoke-on-Trent, Staffordshire ST5 7UH

Telephone: +44 (0)1782 564383
www.colmanad.com

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