

ROW

ROBUST Wall terminal



QUICK FACTS

- Robust design
- Guide vane perforation, LockZone
- Cleanable
- Easy commissioning
- Measurable and adjustable air flow
- Non fouling
- Used with commissioning box ALV
- Standard colour White RAL 9003
 - 5 alternative standard colours
 - Other colours upon request

AIR FLOW - SOUND PRESSURE ROOM (L_{p10A}) *)						
ROW + ALV Size	25 dB(A)		30 dB(A)		35 dB(A)	
	l/s	m ³ /h	l/s	m ³ /h	l/s	m ³ /h
400 x 150	24	86	31	112	55	198
400 x 200	38	137	49	176	86	310

Data applies at a total pressure of 50 Pa.

*) L_{p10A} = Sound pressure incl. A-filter with 4 dB room attenuation and 10 m² room absorption area.

Technical description

Design

Rectangular supply air terminal in 1.5 mm sheet steel for wall mounting. The terminal is built up of a diffuser face and a mounting plate. The diffuser face has guide vane perforations.

Materials and surface treatment

The diffuser face is made of sheet steel. The commissioning box ALV is made of galvanized sheet steel. The diffuser face is powder coated.

- Standard colour:
 - White semi-gloss, lustre 40, RAL 9003/NCS S 0500-N
- Alternative standard colours:
 - Silver gloss, lustre 80, RAL 9006
 - Grey aluminium gloss, lustre 80, RAL 9007
 - White semi-gloss, lustre 40, RAL 9010
 - Black semi-gloss, lustre 35, RAL 9005
 - Grey semi-gloss, lustre 30, RAL 7037
- Non-painted finish and other colours available on request.

Accessories

Commissioning box:

ALV. Manufactured of a galvanized sheet steel. Includes a removable commissioning damper, a fixed measurement unit and sound attenuating acoustic baffles. The commissioning box is available with two different connection options, rear and side connection.

ROWT 1. Manufactured of galvanized sheet steel. For installation in framed walls with the air supply from above or below.

ROWT 2. Connection to be used together with ROWT 1. Has circular duct connection, see figure 1. Manufactured of galvanized sheet steel.

Planning / installation

When using a commissioning box ROWT this should be installed at the same time as the framed wall is built. For commissioning a damper, i.e. CRP, can be used. See Figure 1 and 2.

Commissioning

Commissioning should be done with the diffuser face assembled. The measurement hose and damper cords are pulled out of the unit through the perforation. Then lock the cords against the locking screw in the air distribution baffle. The K-factor is stated on the product label. The K-factors are also stated in the current K-factor guide. Available from www.swegon.com. See Figure 2.

Maintenance

The diffuser is cleaned if necessary with tepid water and a detergent. Access to the duct system is possible by drilling out the steel pop rivets; the diffuser face is then released from its spring clips. When the commissioning box ALV is used, remove one of the acoustic baffles to gain access to the damper. See Figure 1 and 2.

Environment

The Declaration of construction materials is available at www.swegon.com.



Installation with ROWT

1. Commissioning box ROWT 1 and connection duct ROWT 2 are built into the wall. The opening in the wall for the supply air diffuser ROW is made according to the measurement table and the measurement drawing.
2. The mounting plate is slid into the commissioning box ROWT 1
3. The positions of the holes are marked.
4. Drill the screw holes.
5. The mounting plate is screwed to the wall. NOTE! The screw head may be max 4 mm.
6. The diffuser section is riveted using steel pop rivets.

See Figure 1.

Installation with ALV

1. Make a hole in the wall according to the measurement table and measurement drawing. The commissioning box ALV is placed in the hole. The mounting frame is slid into the commissioning box and secured using screws through the short sides and the sides of the commissioning box into the wall.
2. The measurement hose and damper control cords are threaded through the distribution plate in the mounting plate, which is pressed into the mounting frame. The mounting frame is held in place by the spring clips. The positions of the screw holes are marked on the wall.
3. Drill the screw holes in the wall.
4. The mounting plate is screwed to the wall.
5. Commissioning is carried out with the diffuser face temporarily secured using the supplied screws, see Commissioning.
6. The screw holes in the mounting plate for the temporary mounting are drilled out using a 5.5 mm drill bit. The measurement hose and adjustment cord can be removed if necessary by cutting them off flush with the distribution plate. Alternatively they can be pushed back, behind the distribution plate.
7. The diffuser face is riveted using steel pop rivets.

See Figure 2.

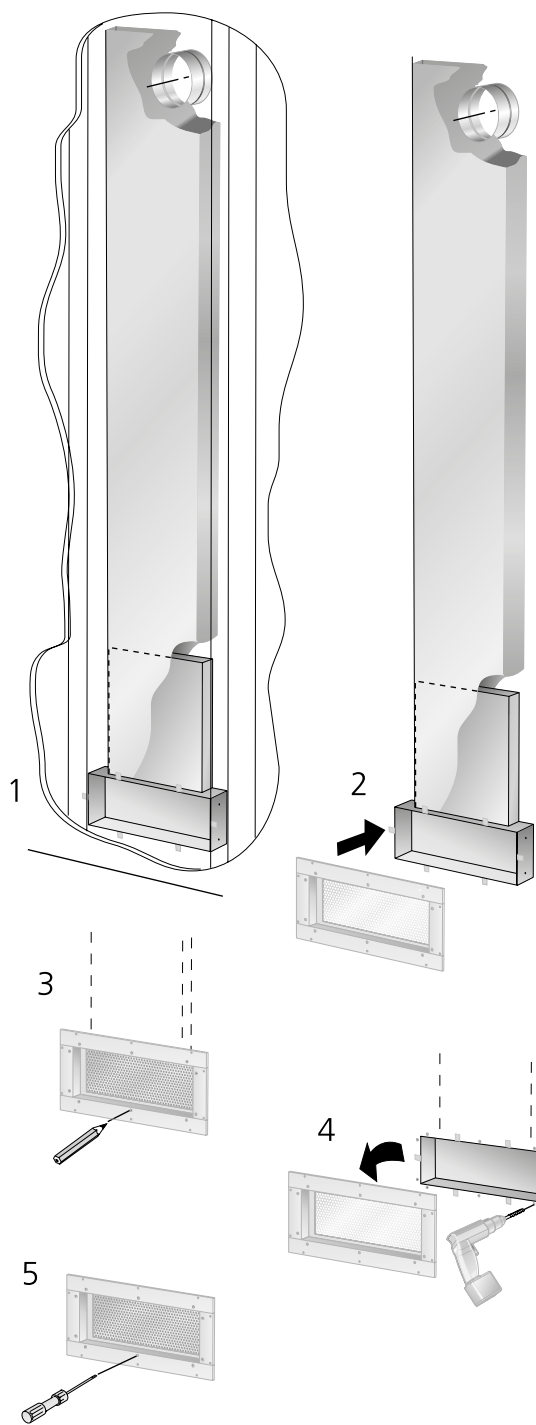
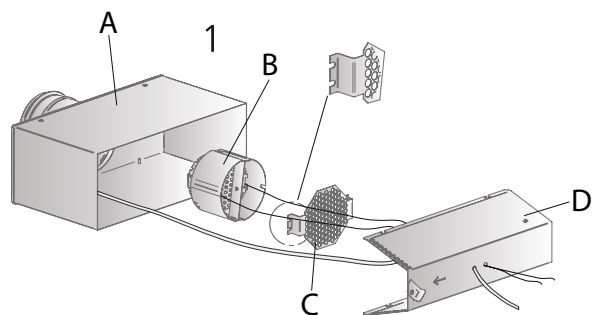


Figure 1. ROW + ROWT 1



To secure baffle (D) in bayonet catch and to secure the octagonal perforated face plate (C) against the duct connection.
 A. Commissioning box
 B. Damper action, bayonet catch
 C. Octagonal air distribution plate
 D. Air distribution plate

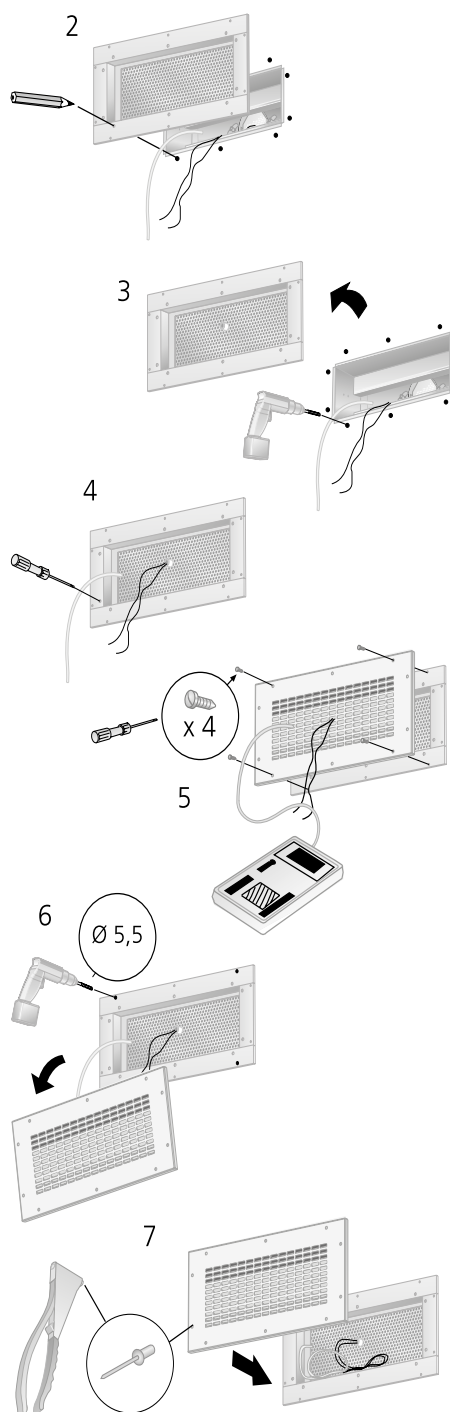


Figure 2. ROW + ALV.

Sizing

- Sound pressure level dB(A) applies to rooms with 10 m² equivalent sound absorption area.
- Sound attenuation (ΔL) below is shown in the octave band. Orifice attenuation is included in the values.
- Throw length $I_{0.2}$ is measured with isothermal supply air temperature. The diagrams show the data for ROW installed 200 mm from the ceiling. See the Technical section of this catalogue for how to correct throw lengths with other distances between the unit and the ceiling.
- Recommended max under temperature is 12°C.
- For calculating the width of the air stream, air velocities in the occupied zone or sound levels in rooms with other dimensions, please refer to our web calculation softwares available for download at www.swegon.com.

L_w = Sound power level

L_{p10A} = Sound pressure level dB (A)

K_{ok} = Correction for producing the L_w value in the octave band

$L_w = L_{p10A} + K_{OK}$ gives the frequency divided octave band

Sound data – ROW + ALV – Supply air

Sound power level L_w (dB)

Table K_{OK}

Size	Mid-frequency (octave band) Hz							
	63	125	250	500	1000	2000	4000	8000
ROW + ALV								
400-150	-3	3	3	0	0	-4	-13	-20
400-200	-2	4	4	0	0	-5	-14	-19
Tol ±	2	2	2	2	2	2	2	2

Sound attenuation ΔL (dB)

Table ΔL

Size	Mid-frequency (octave band) Hz							
	63	125	250	500	1000	2000	4000	8000
ROW + ALV								
400-150	18	8	7	5	6	7	10	12
400-200	14	11	4	3	5	7	5	5
Tol ±	2	2	2	2	2	2	2	2

Sound data – ROW + ROWT 1 – Supply air

Sound power level L_w (dB)

Table K_{OK}

Size	Mid-frequency (octave band) Hz							
	63	125	250	500	1000	2000	4000	8000
ROW + ROWT 1a								
400-150	-1	1	2	3	1	-11	-21	-23
500-200	-4	3	0	3	1	-10	-18	-21
Tol ±	2	2	2	2	2	2	2	2

Sound attenuation ΔL (dB)

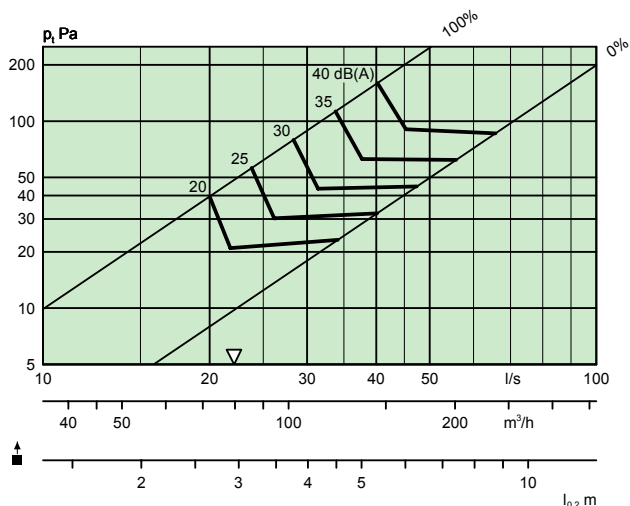
Table ΔL

Size	Mid-frequency (octave band) Hz							
	63	125	250	500	1000	2000	4000	8000
ROW + ROWT 1								
400-150	19	9	4	7	13	12	10	14
500-200	16	9	2	6	9	10	9	12
Tol ±	2	2	2	2	2	2	2	2

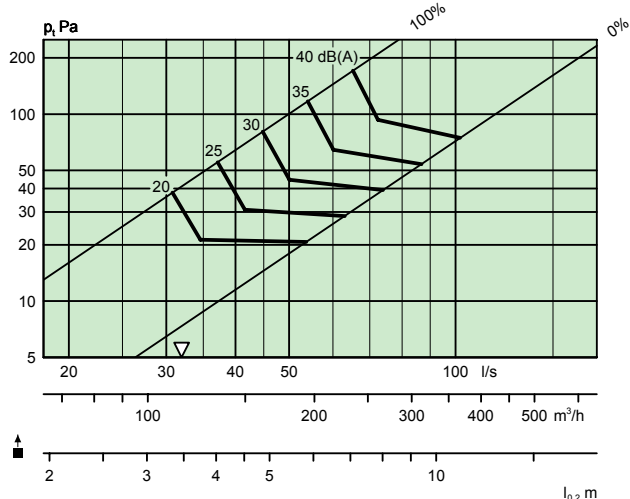
Engineering graphs – ROW + ALV – Supply air Airflow – Pressure drop – Sound level – Throw

- The diagrams should not be used for commissioning.
- ∇ = Min flow to obtain sufficient commissioning pressure.
- dB(A) applies for a normally attenuated room (4 dB room attenuation).
- dB(C) the value normally lies 6-9 dB higher than the dB(A) value. For accurate calculations see the templates in the catalogue's technical section in the chapter Acoustics.

ROW 400-150 + ALV 400-150-125 B/K



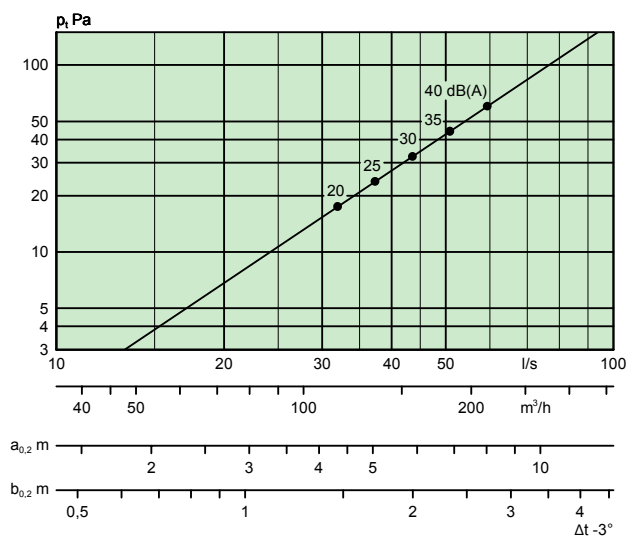
ROW 400-200 + ALV 400-200-160 B/K



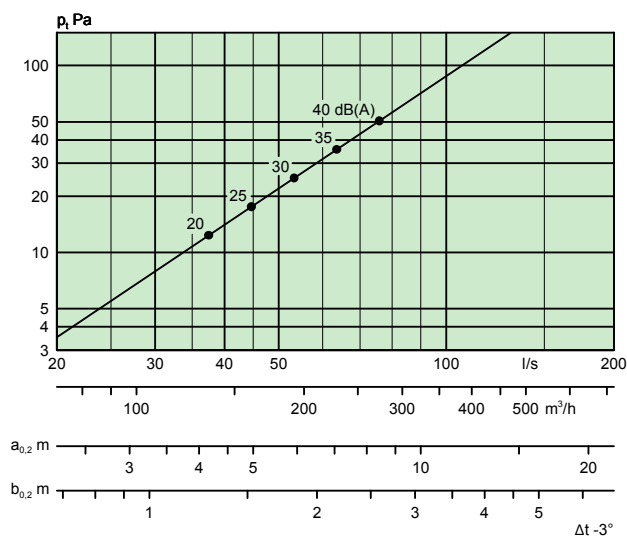
Engineering graphs – ROW + ROWT 1 – Supply air Airflow – Pressure drop – Sound level – Near zone

- The diagrams should not be used for commissioning.
- ∇ = Min flow to obtain sufficient commissioning pressure.
- dB(A) applies for a normally attenuated room (4 dB room attenuation).
- dB(C) the value normally lies 6-9 dB higher than the dB(A) value. For accurate calculations see the calculation templates in the catalogue's technical section in the chapter Acoustics.

ROW 400-150 + ROWT 1 400-150-125



ROW 500-200 + ROWT 1 500-200-160



Dimensions and weight

ROW + ROWT 1 + ROWT 2

Size	Dimensions (mm)					
	A	B	C	D	E	F
400x150	480	230	395	145	300	50
500x200	580	280	495	195	350	50

Size	Dimensions (mm)			Weight (kg)
	G	H*)	ØD	
400x150	80	86	124	13,5
500x200	80	105	159	18,0

Figure 3. ROW + ROWT 1 and ROWT 2.

ROW + ALV

Size	Dimensions (mm)					
	A	B	ØD	F	G	G2
400x150	480	230	124	295	225	331
400x200	480	280	159	315	225	331

Size	Dimensions (mm)					Weight (kg)
	K*)	L	M*)	I	J	
400x150	85	180	240	405	155	6,0
400x200	100	145	225	405	205	6,5

CL = Center line / Hole cutting size = I x J

*) Measurements H, K, L and M apply to a side connected commissioning box.

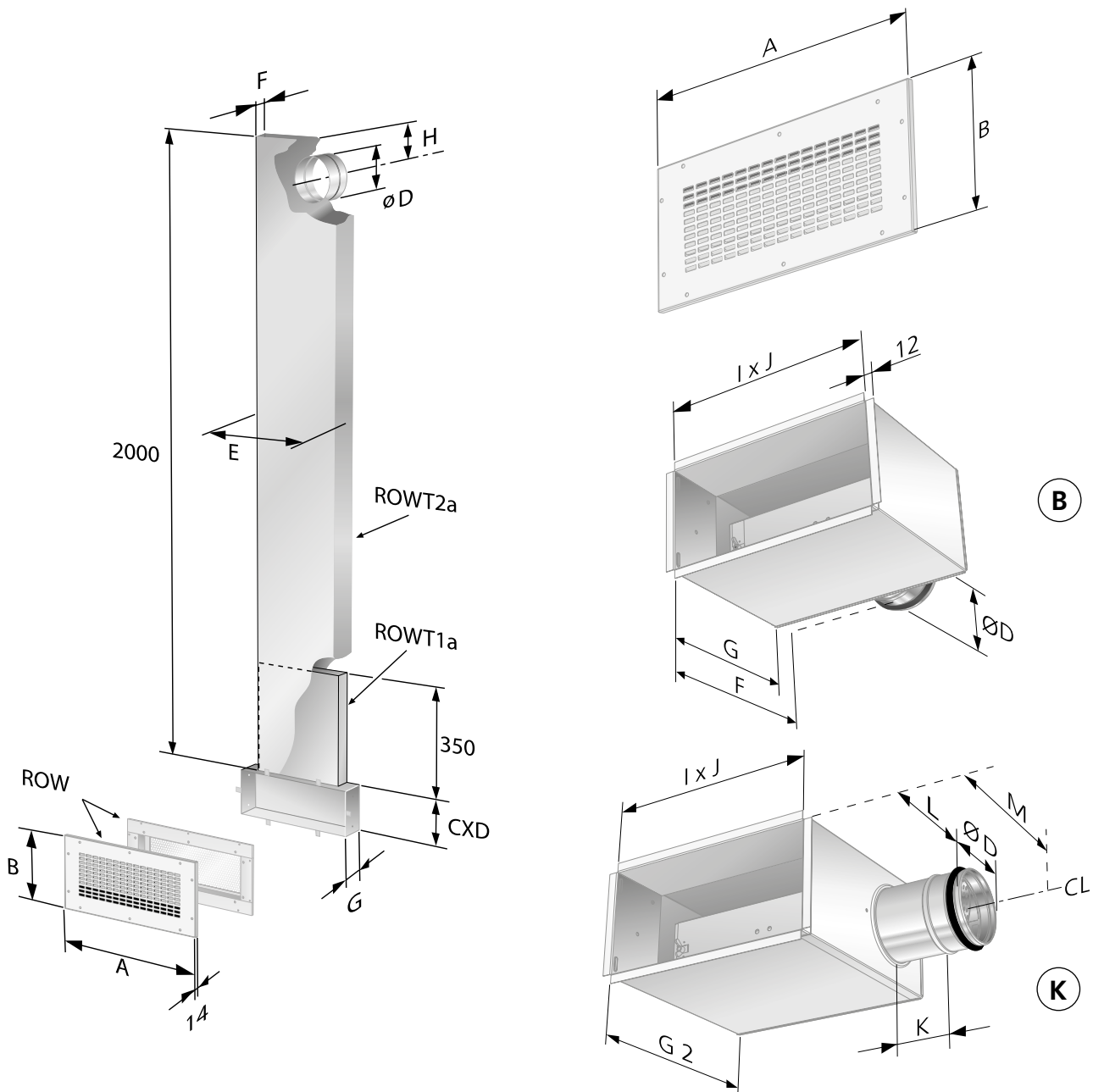


Figure 4. ROW + ALV.

Order key

Products

Rectangular perforated wall diffuser ROW b -aaa -bbb

Version

Nom. Width in mm:
400, 500

Nom. height in mm:
150, 200

Standard range

Size: 400-150
 400-200
 500-200

Accessories

Commissioning box ALVe -aaa-bbb-ccc -d

For size: ALV
400-150 400-150-125
400-200 400-200-160

Connection alternatives:

Rear = B
Short side = K

Commissioning box ROWT 1 -aaa-bbb

For size: ROWT 1
400-150 400-150
500-200 500-200

Connection duct to commissioning box ROWT 2 -ccc

For size: ROWT 2
400-150 125
500-200 160

Specification example

Swegons reinforced rectangular perforated terminal type ROW for wall mounting with commissioning box ALV and the following functions:

- Front manufactured of 1.5 mm sheet steel
- Guide vane perforations, LockZone
- Adjustable damper with cord control
- Fixed measurement unit with low method error
- Cleanable
- Powder coated white RAL 9003/NCS S 0500-N

Size: ROWb aaa - bbb with
 ALVe aaa - bbb - ccc -d xx items