

Generation of isometric drawings  
in the Program System ROHR2



SIGMA Ingenieurgesellschaft mbH





## Content

	<b>ROHR2 Introduction</b> .....	<b>1</b>
<b>1</b>	<b>ROHR2iso - features and functions</b> .....	<b>1</b>
<b>2</b>	<b>ROHR2iso commands</b> .....	<b>3</b>
2.1	Isometric representation.....	4
2.2	Parts lists.....	6
2.3	Print Graphic with part lists.....	7
2.4	Control of the output by line names in ROHR2/ROHR2iso .....	8
<b>3</b>	<b>Program license and system requirements</b> .....	<b>9</b>
<b>4</b>	<b>Software Development, Sales and Support</b> .....	<b>9</b>

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## 1 ROHR2iso - features and functions

ROHR2iso is an additional program, providing the ROHR2 user interface ROHR2win with isometric drawing functionality. ROHR2iso creates scaled and unscaled pipe isometrics from the basis of existing calculation models. The program allows to add dimensions, welding nodes and additional parameters like height data or user defined texts and graphics. Sum- and individual part lists may be given out. In reverse order existing isometric drawings and their data may be the basis of static or dynamic analyses in ROHR2 (ROHR2 license required).

Using ROHR2iso means:

### ***Minimal effort to the training of the users***

The separate available program module ROHR2iso is integrated into ROHR2win. Multiple inputs are not required: each data entry is made for calculation and isometric drawing.

### ***Reduced data input, saving time on the project***

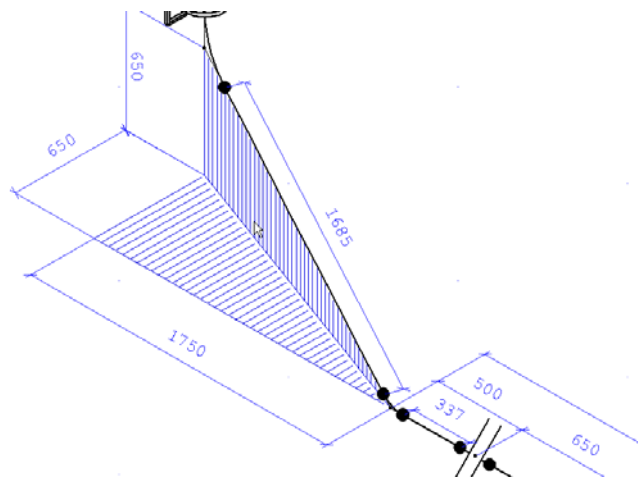
Enormous advantages arise at the system optimization or system changes: if there are changes in geometry or in technical requirements, the calculation and isometric may be adapted in one step.

### ***User interface***

The graphical user interface ROHR2 is completed by the additional program ROHR2iso.

### ***Dimensioning***

The dimensioning of the system may be carried out manually or automatically. Select between different modes in automatic mode: each element, vertex-vertex or between supports. The dimensions may be inserted manually between nodes, too. Free positioning is another feature of the program. Visible position is the scaled distance between the nodes. Auxiliary lines may be inserted at diagonal segments.



**Welding seams**

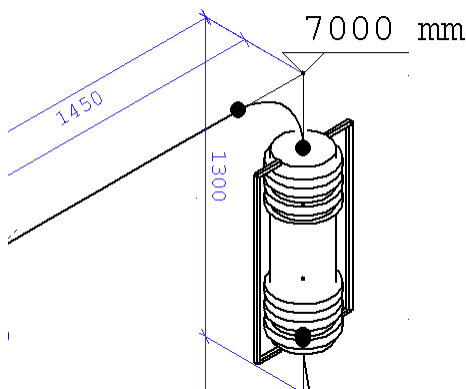
Insert welds at all components automatically or manually at individual nodes.

**Instruments**

Select symbols from a library to represent instruments in the system.

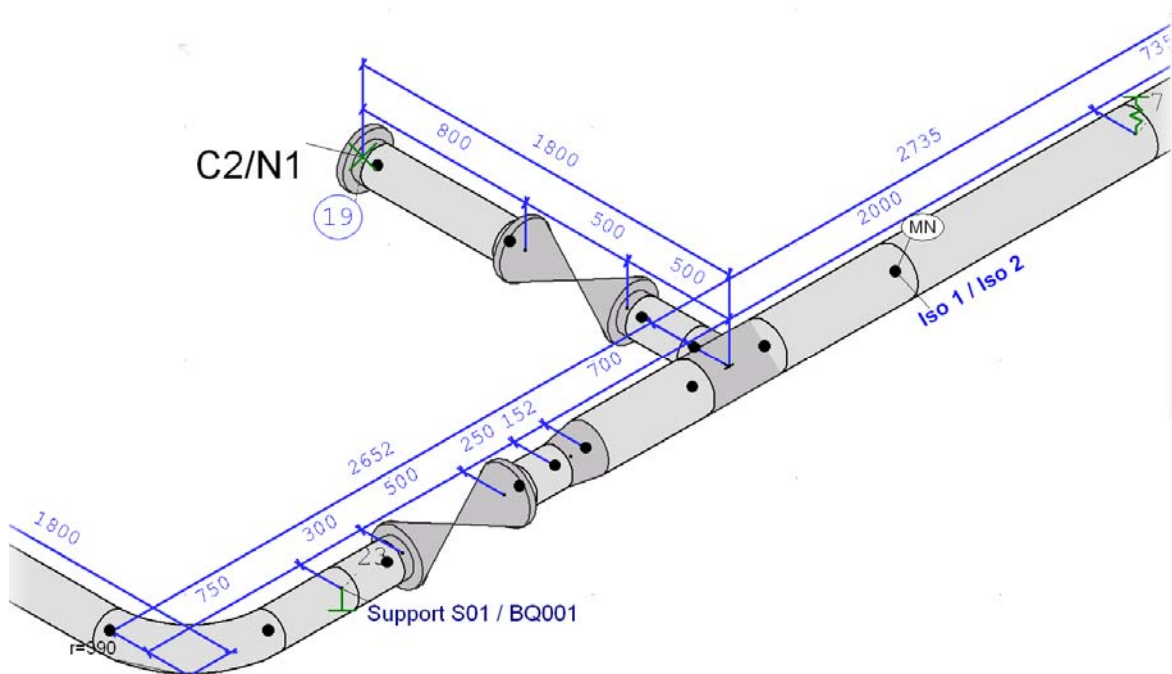
**Elevation levels / Height indicators**

Height parameters may be inserted and positioned at any node.



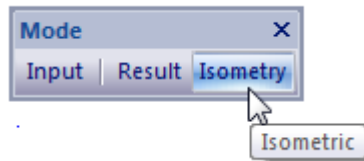
**Part lists**

Sum- and individual part lists may be created containing all components. The automatic numbering may be influenced by the program user. Component groups may be ignored. The program determines length-, mass and surface parameters.  
For documentation purposes and further processing the part lists may be printed or stored in various file formats.



## 2 ROHR2iso commands

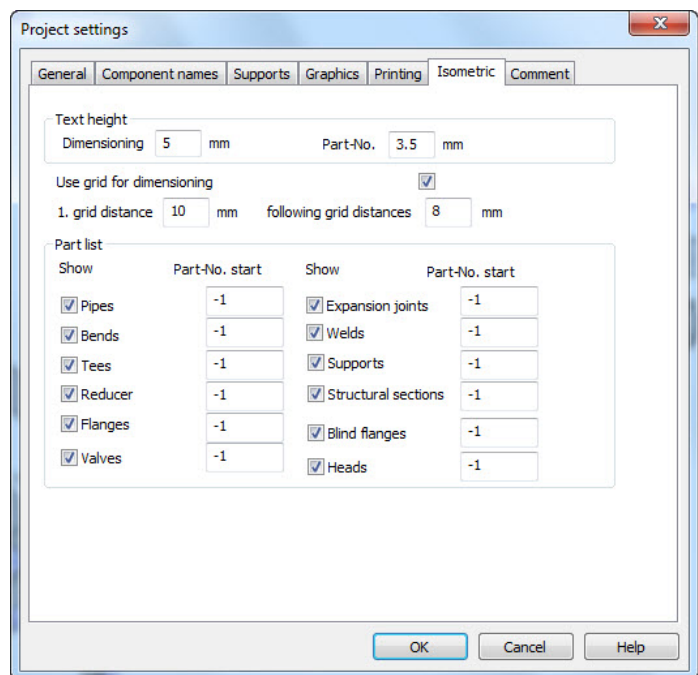
The additional program ROHR2iso enables to activate the isometric mode of ROHR2win.



The toolbar ISOMETRY enables to select the main functions of the isometric mode, like dimensionings, auxiliary lines, welds.

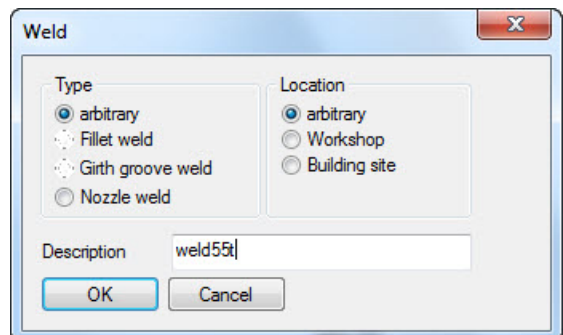
### Settings

The settings are made in the ISOMETRIC tab of the *Project settings window*.



### Isometric Element

Dialog window changing the properties of the isometric elements (weld).  
Change the type of weld, it will appear in the part list.



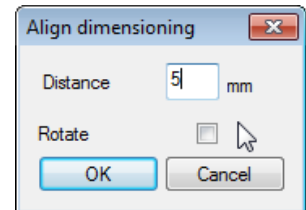
## 2.1 Isometric representation

### Unscaled View

In the unscaled view single nodes or parts of the system may be moved. The scaled coordinates will not be changed. Switch between scaled and unscaled view by mouse-click.

### Dimensioning: insert and line up

Insert a dimension between two nodes. The scaled distance between the nodes will be shown. Dimensionings may be moved or rotated by 90°. The distance from the system line, position and font height of the measurement may be edited.



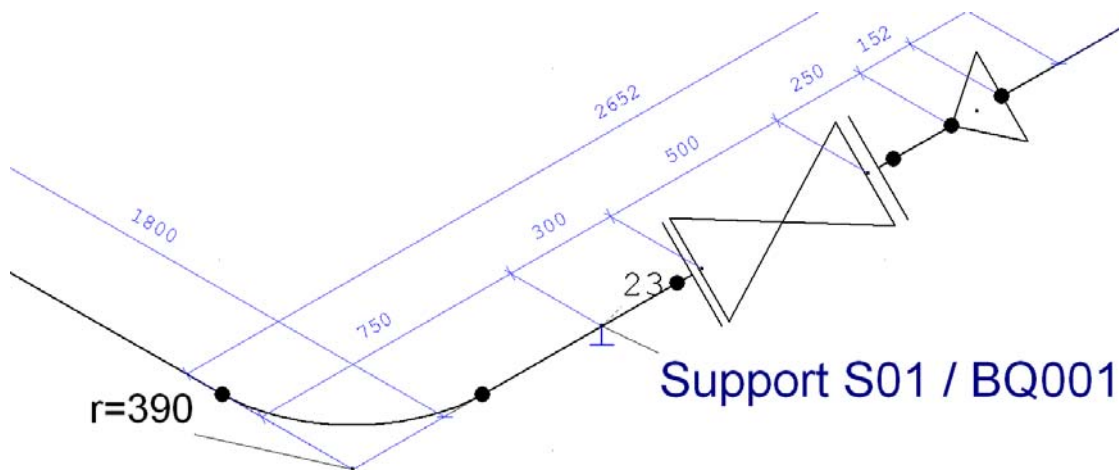
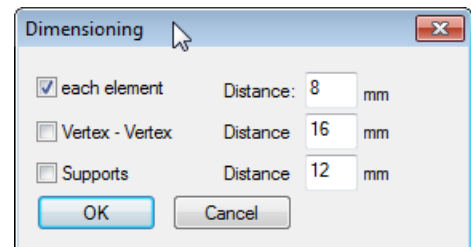
### Automatic dimensioning

The automatic dimensioning feature adds measurements to the entire system.

For each element dimensionings of start and end nodes are inserted.

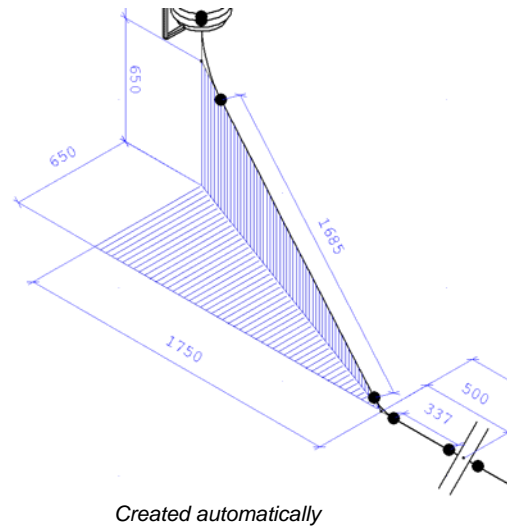
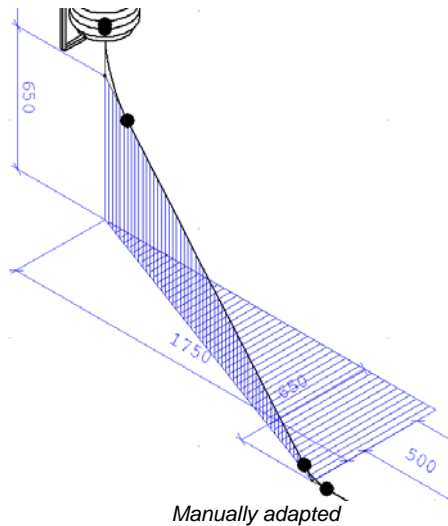
Special cases:

- for bends the dimensioning line is inserted up to the point of tangential intersection.
- bend start or end nodes are not measured.
- for flanges only the sealing surface is measured.



**Insert auxiliary lines**

Insert auxiliary lines at diagonal (slope) segments.

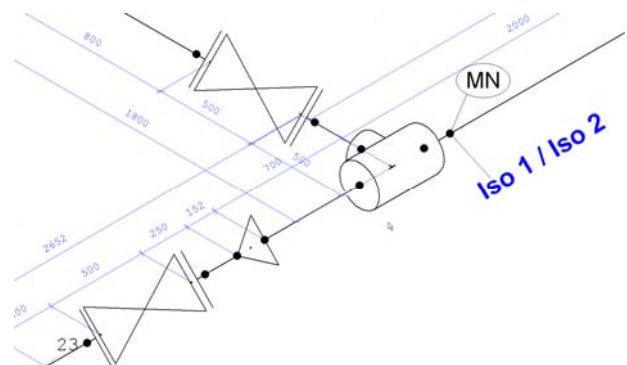


**Insert symbols**

Complete the isometric drawing by symbols.

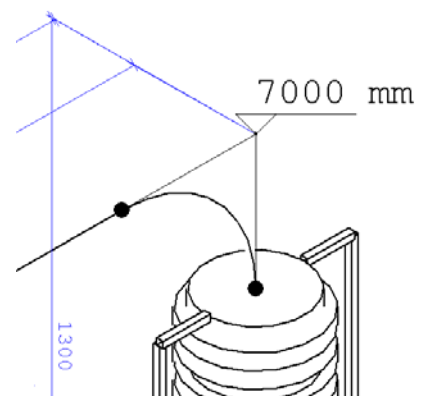
**Weld**

Insert a symbol for a weld manually or automatically. The properties of the element may be changed in a dialog window. The element is shown in the part lists.



**Elevation level**

Add the height parameter to a node. The vertical coordinate of the node is shown as height. The settings window allows to change the coordinates unit.



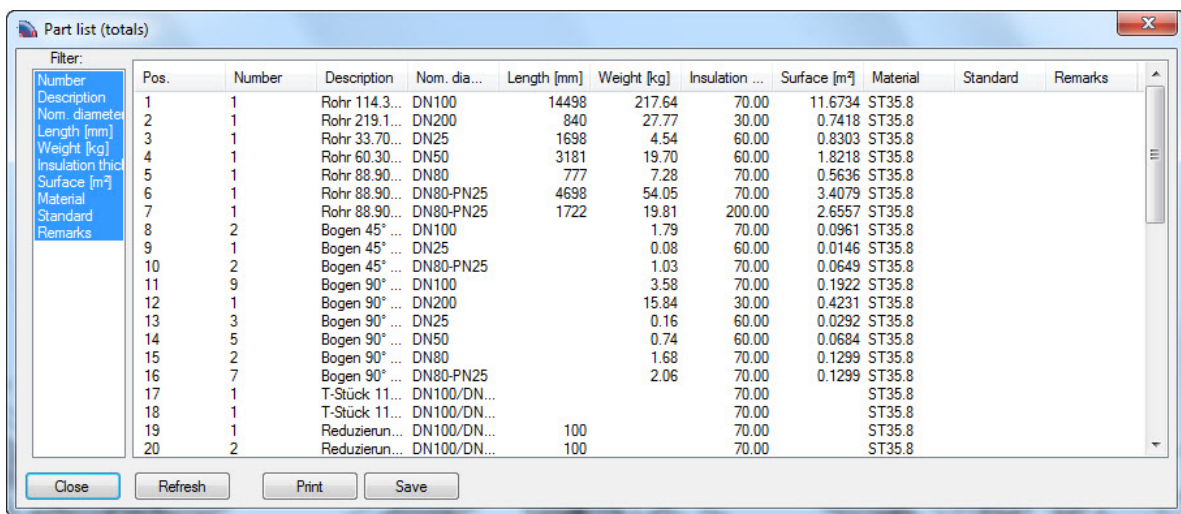


## 2.2 Parts lists

ROHR2iso creates summation- and individual part lists. They are shown in separate dialog windows and may be integrated into the systems documentation (online or print output). There are several file formats available to export part lists: \*.rff, \*.txt and \*.html as well as a txt-format, readable by spreadsheet software like Microsoft Excel. Remarks may be added to the parts, too.

### Summation parts list

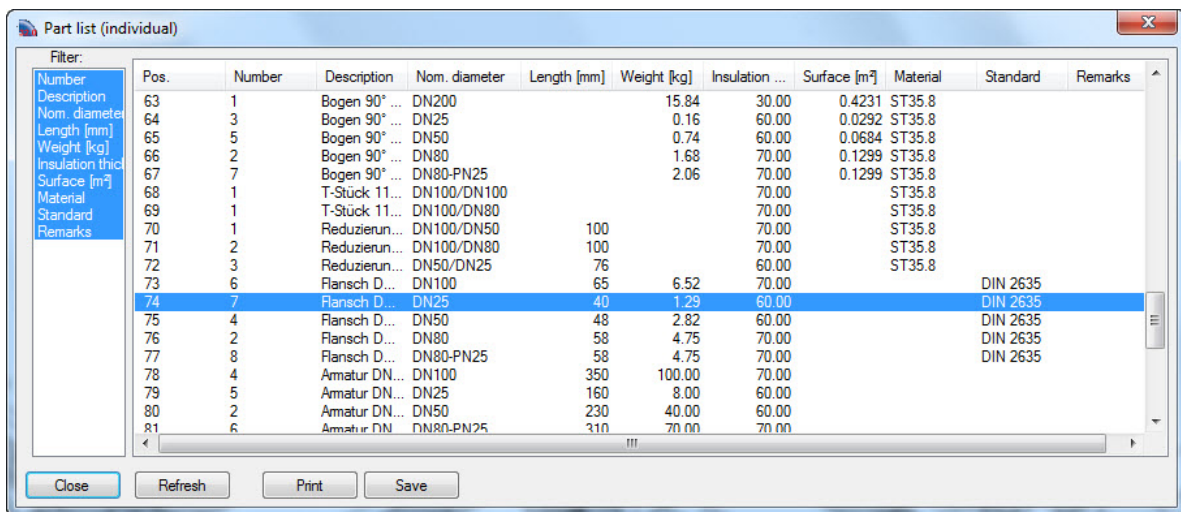
Listing of all pipe components, supports and welds. Identical components are summed up. The part list of the actual system may be inserted into the print output.



Filter:	Pos.	Number	Description	Nom. dia...	Length [mm]	Weight [kg]	Insulation ...	Surface [m²]	Material	Standard	Remarks
Number											
Description											
Nom. diameter											
Length [mm]											
Weight [kg]											
Insulation thick											
Surface [m²]											
Material											
Standard											
Remarks											
	1	1	Rohr 114.3...	DN100	14498	217.64	70.00	11.6734	ST35.8		
	2	1	Rohr 219.1...	DN200	840	27.77	30.00	0.7418	ST35.8		
	3	1	Rohr 33.70...	DN25	1698	4.54	60.00	0.8303	ST35.8		
	4	1	Rohr 60.30...	DN50	3181	19.70	60.00	1.8218	ST35.8		
	5	1	Rohr 88.90...	DN80	777	7.28	70.00	0.5636	ST35.8		
	6	1	Rohr 88.90...	DN80-PN25	4698	54.05	70.00	3.4079	ST35.8		
	7	1	Rohr 88.90...	DN80-PN25	1722	19.81	200.00	2.6557	ST35.8		
	8	2	Bogen 45° ...	DN100		1.79	70.00	0.0961	ST35.8		
	9	1	Bogen 45° ...	DN25		0.08	60.00	0.0146	ST35.8		
	10	2	Bogen 45° ...	DN80-PN25		1.03	70.00	0.0649	ST35.8		
	11	9	Bogen 90° ...	DN100		3.58	70.00	0.1922	ST35.8		
	12	1	Bogen 90° ...	DN200		15.84	30.00	0.4231	ST35.8		
	13	3	Bogen 90° ...	DN25		0.16	60.00	0.0292	ST35.8		
	14	5	Bogen 90° ...	DN50		0.74	60.00	0.0684	ST35.8		
	15	2	Bogen 90° ...	DN80		1.68	70.00	0.1299	ST35.8		
	16	7	Bogen 90° ...	DN80-PN25		2.06	70.00	0.1299	ST35.8		
	17	1	T-Stück 11...	DN100/DN...			70.00		ST35.8		
	18	1	T-Stück 11...	DN100/DN...			70.00		ST35.8		
	19	1	Reduzierun...	DN100/DN...		100	70.00		ST35.8		
	20	2	Reduzierun...	DN100/DN...		100	70.00		ST35.8		

### Individual parts lists

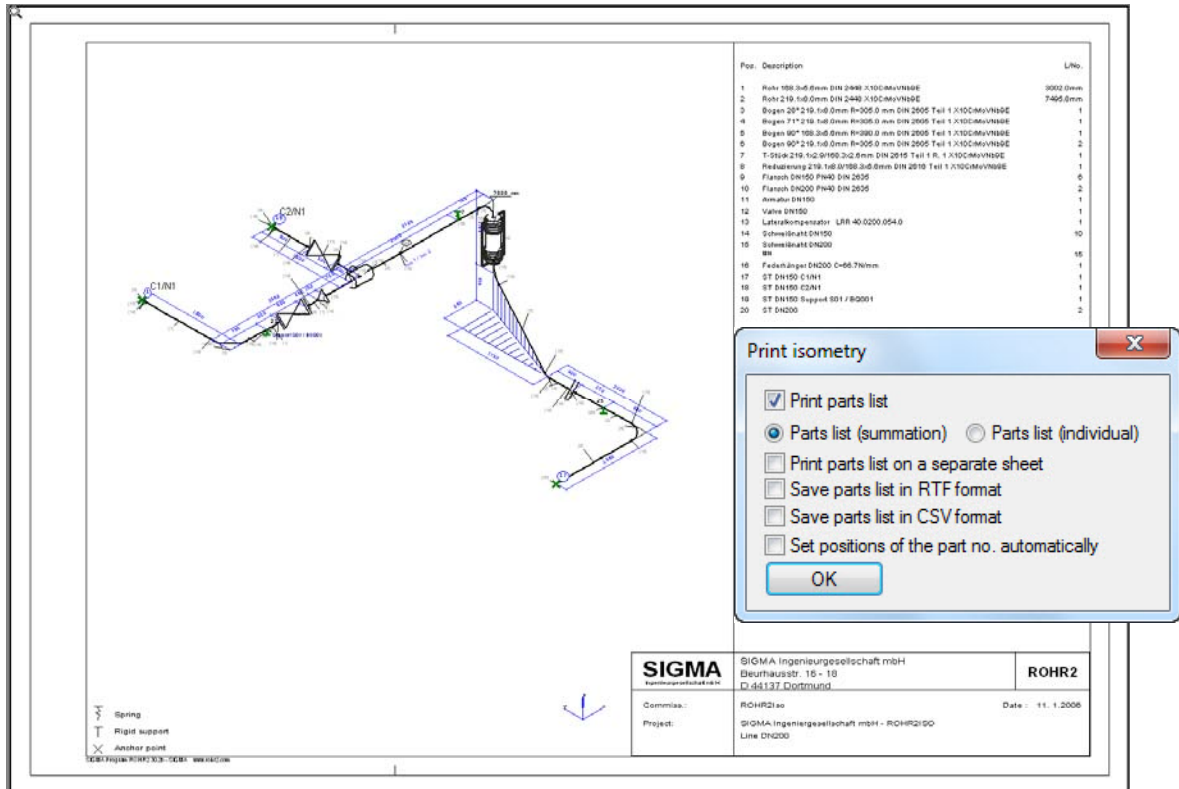
Separate listing of all pipe components, supports and welds. A comment may be added. The part list of the actual system may be inserted into the print output.



Filter:	Pos.	Number	Description	Nom. diameter	Length [mm]	Weight [kg]	Insulation ...	Surface [m²]	Material	Standard	Remarks
Number											
Description											
Nom. diameter											
Length [mm]											
Weight [kg]											
Insulation thick											
Surface [m²]											
Material											
Standard											
Remarks											
	63	1	Bogen 90° ...	DN200		15.84	30.00	0.4231	ST35.8		
	64	3	Bogen 90° ...	DN25		0.16	60.00	0.0292	ST35.8		
	65	5	Bogen 90° ...	DN50		0.74	60.00	0.0684	ST35.8		
	66	2	Bogen 90° ...	DN80		1.68	70.00	0.1299	ST35.8		
	67	7	Bogen 90° ...	DN80-PN25		2.06	70.00	0.1299	ST35.8		
	68	1	T-Stück 11...	DN100/DN100			70.00		ST35.8		
	69	1	T-Stück 11...	DN100/DN80			70.00		ST35.8		
	70	1	Reduzierun...	DN100/DN50		100	70.00		ST35.8		
	71	2	Reduzierun...	DN100/DN80		100	70.00		ST35.8		
	72	3	Reduzierun...	DN50/DN25		76	60.00		ST35.8		
	73	6	Flansch D...	DN100		65	6.52	70.00		DIN 2635	
	74	7	Flansch D...	DN25		40	1.29	60.00		DIN 2635	
	75	4	Flansch D...	DN50		48	2.82	60.00		DIN 2635	
	76	2	Flansch D...	DN80		58	4.75	70.00		DIN 2635	
	77	8	Flansch D...	DN80-PN25		58	4.75	70.00		DIN 2635	
	78	4	Armatur DN...	DN100		350	100.00	70.00			
	79	5	Armatur DN...	DN25		160	8.00	60.00			
	80	2	Armatur DN...	DN50		230	40.00	60.00			
	81	6	Armatur DN...	DN80-PN25		310	70.00	70.00			

### 2.3 Print Graphic with part lists

The isometric mode allows to add part lists to the graphic print output.



The screenshot displays the ROHR2iso software interface. On the left, an isometric drawing of a piping system is shown with various components labeled. A legend in the bottom-left corner identifies symbols for 'Spring', 'Right support', and 'Anchor point'. On the right side, a table lists the parts used in the drawing:

Pos.	Description	Qty.
1	Rohr 100 3x0.6mm DIN 2448 X100MAVNBGE	3502.6mm
2	Rohr 219 1x0.6mm DIN 2448 X100MAVNBGE	7465.6mm
3	Bogen 2012 10 1x0.6mm R=305.0 mm DIN 2655 Teil 1 X100MAVNBGE	1
4	Bogen 7112 10 1x0.6mm R=305.0 mm DIN 2655 Teil 1 X100MAVNBGE	1
5	Bogen 901 100 2x0.6mm R=300.0 mm DIN 2655 Teil 1 X100MAVNBGE	1
6	Bogen 9012 10 1x0.6mm R=305.0 mm DIN 2655 Teil 1 X100MAVNBGE	2
7	T-Stück 219 1x2.0/100 2x2.6mm DIN 2615 Teil 1 R. 1 X100MAVNBGE	1
8	Flansch 219 1x2.0/100 2x0.6mm DIN 2610 Teil 1 X100MAVNBGE	1
9	Flansch DN150 Flansch DN 2655	6
10	Flansch DN200 Flansch DN 2655	2
11	Armatur DN150	1
12	Valve DN150	1
13	Leitblechkomperator LBR 40 0200 054 0	1
14	Schweißnaht DN150	10
15	Schweißnaht DN200	15
16	Federhänger DN200 C=66.7N/mm	1
17	ST DN150 C10H1	1
18	ST DN150 C20H1	1
19	ST DN150 Support 101 / R2001	1
20	ST DN200	2

Overlaid on the bottom right is the 'Print isometry' dialog box with the following options:

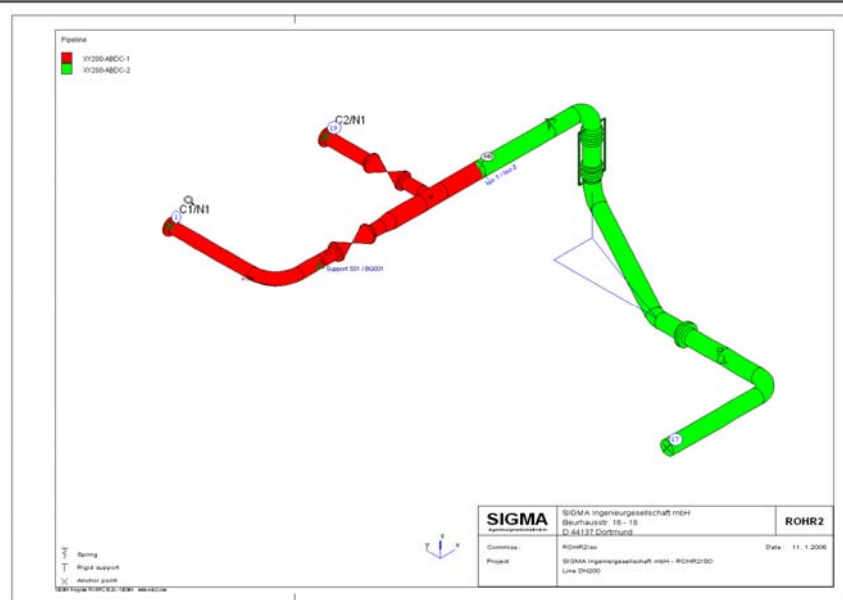
- Print parts list
- Parts list (summation)  Parts list (individual)
- Print parts list on a separate sheet
- Save parts list in RTF format
- Save parts list in CSV format
- Set positions of the part no. automatically

At the bottom of the software window, there is a metadata table:

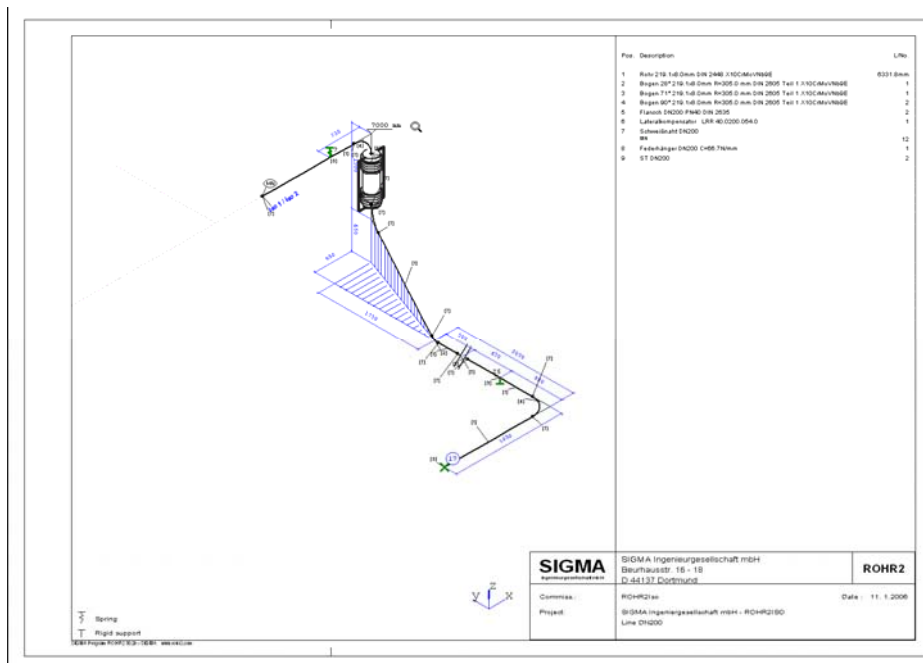
<b>SIGMA</b> Ingenieurgesellschaft mbH	SIGMA Ingenieurgesellschaft mbH Beutfauststr. 15 - 19 D-64137, Dietzenhausen	<b>ROHR2</b>
Comma:	ROHR2iso	Date: 11. 1. 2006
Project:	SIGMA Ingenieurgesellschaft mbH - ROHR2/100 Line DN200	

Print output with summation part list

## 2.4 Control of the output by line names in ROHR2/ROHR2iso



Assignment of partial systems resp. individual lines in ROHR2



The program also enables to print out single lines and their part lists

### 3 Program license and system requirements

#### **Program version, network license**

ROHR2iso is an optional available module in the program system ROHR2. It can be part of the ROHR2 single user license and ROHR2 network license. In the ROHR2 network license the number of the users of an optional module can be similar or lower than the number of ROHR2 network seats. For system requirements and program features see ROHR2 Specification. Running ROHR2iso requires the installation of **ROHR2**.

#### **Scope of delivery and license key**

The programs' scope of delivery contains

- the program data (by download or ROHR2 CD)
- the program documentation in html and/or pdf format
- unlocking the module on the ROHR2 license key (USB, dongle).

The software does not run without the license key. In case of updates/upgrades the license key will be replaced or updated.

#### **Documentation /User manual**

The functions of ROHR2iso are explained in the ROHR2win manual.

#### **Maintenance and user support**

Advice about installation and application is done by the ROHR2 user support (hotline). The hotline is part of the included service after purchase, during time limited licensing (rent) and as a part of a maintenance agreement.

Interfaces and additional programs are integrated into ROHR2. Maintenance of additional programs and interfaces is mandatory in this case.

### 4 Software Development, Sales and Support

SIGMA, established in 1989 in Dortmund, Germany has emerged as a partner of choice for leading international companies with its software and the wide variety of engineering services.

SIGMA is known as one of the leading engineering specialists in the Pipe Stress Business in Europe, offering field tested products, strongly adapted to the user's needs.

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