

# MEASURE DIAPHRAGM



## GENERAL INDICATIONS

Measure diaphragms (calibrated orifices) are the most diffused measure system in industrial environment for the fluids flow measurements.

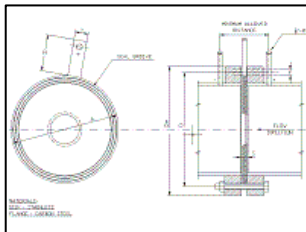
R.A. System calculates and builds measure diaphragms typically for flow measure of air, gas and water.

Diaphragm calculation is made upon the physical characteristics of the fluid to be measured, upon environmental conditions, upon pipes dimensions and upon the kind of construction and assembly.

R.A. System can also supply  $\Delta P$  transmitters already programmed and tested, that transform the pressure drop due to the diaphragm in a  $4\div 20\text{mA}$  signal proportional to the fluid's flow.

## TYPES OF DIAPHRAGMS

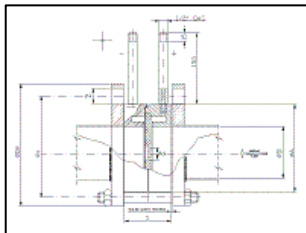
R.A. System produces the following kinds of measure diaphragms:



### Simple disk diaphragm

It is the simplest device. It is installed between two flanges and it needs a straight pipe length without other devices or branches complying with norm UNI EN ISO 5167.

Typical diameters: from ND80 up to ND1200.

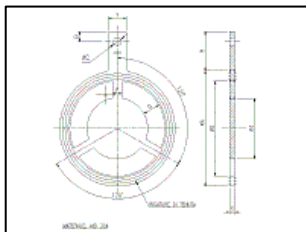


### Annular chambers diaphragm

It is composed by a diaphragm and two containing sockets with the respective outlet ways.

It grants a better measure precision than the simple disk, in particular on smallest diameters.

Typical diameters: from ND32 up to ND500.

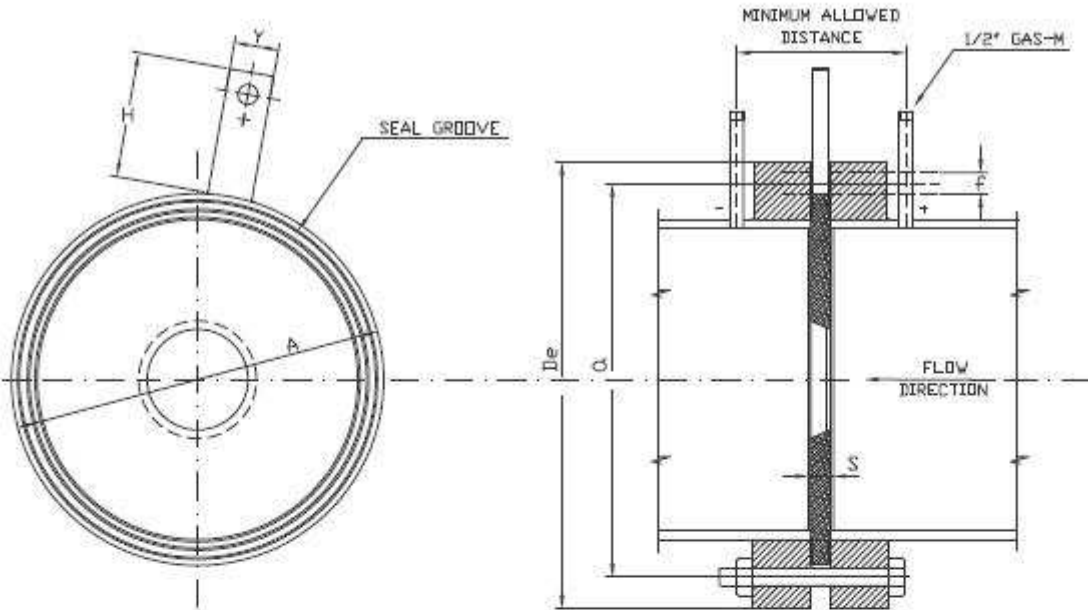


### 'ARECO' type diaphragm

It's similar to the simple disk, but it grants an accurate answer even when installed nearby pipe curves or branches.

Typical diameters: from ND80 up to ND1200.

## SIMPLE DISK DIMENSIONAL DRAWING



**MATERIALS**  
 DISK - STAINLESS  
 FLANGE - CARBON STEEL

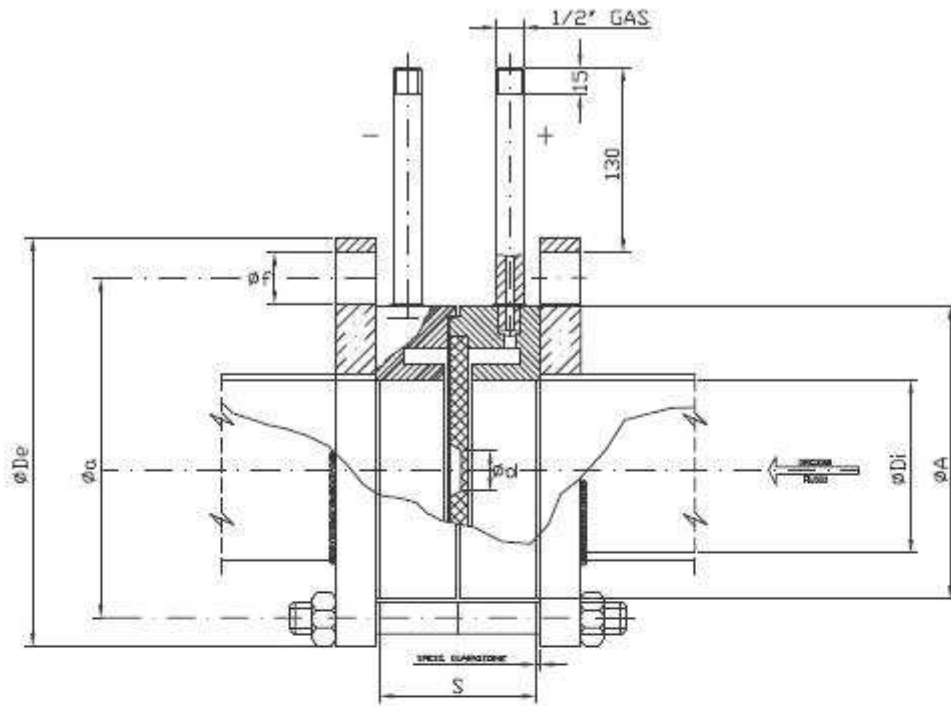
ND	S	H	Y	FLANGE NP 6 UNI 2276					FLANGE NP 10 UNI 2276					FLANGE NP 16 UNI 2276				
				a	De	F	N <sup>holes</sup>	A	a	De	F	N <sup>holes</sup>	A	a	De	F	N <sup>holes</sup>	A
80	4	130	40	150	190	18	4	132	160	200	18	4	142	160	200	18	8	142
100	4	130	40	170	210	18	4	152	180	220	18	8	162	180	220	18	8	162
125	4	130	40	200	240	18	8	182	210	250	18	8	192	210	250	18	8	192
150	4	130	40	225	265	18	8	207	240	285	22	8	218	240	285	22	8	218
175	4	130	40	255	295	18	8	237	270	315	22	8	248	270	315	22	8	248
200	4	130	40	280	320	18	8	262	295	340	22	8	273	295	340	22	12	273
250	4	130	40	335	375	18	12	317	350	395	22	12	328	355	405	25	12	330
300	4	130	40	395	440	22	12	373	400	445	22	12	378	410	460	25	12	385
350	6	150	50	445	490	22	12	423	460	505	22	16	438	470	520	25	16	445
400	6	150	50	495	540	22	16	473	515	565	25	16	490	525	580	30	16	495
450	6	150	50	550	595	22	16	528	565	615	25	20	540	585	640	30	20	555
500	6	150	60	600	645	22	20	578	620	670	25	20	595	650	715	33	20	617
600	8	150	60	705	755	25	20	680	725	780	30	20	695	770	840	36	20	734
700	8	150	60	810	860	25	24	785	840	895	30	24	810	840	910	36	24	804
800	8	165	70	920	975	30	24	890	950	1015	33	24	917	950	1025	39	24	911
900	8	165	70	1020	1075	30	24	990	1050	1115	33	28	1017	1050	1125	39	28	1011
1000	10	165	70	1120	1175	30	28	1090	1160	1230	36	28	1124	1170	1255	42	28	1128
1100	10	165	70	1220	1275	30	28	1190										
1200	10	165	70	1320	1375	30	32	1290										

**RA SYSTEM**

CALIBRATED ORIFICE  
FOR FLANGE NP 6-10-16

FORM SHEET	01	OF	01	ENTZ. ISSUED	0
REVIS.	0	-	-	-	-
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FILE NUMBER	I_025_00				

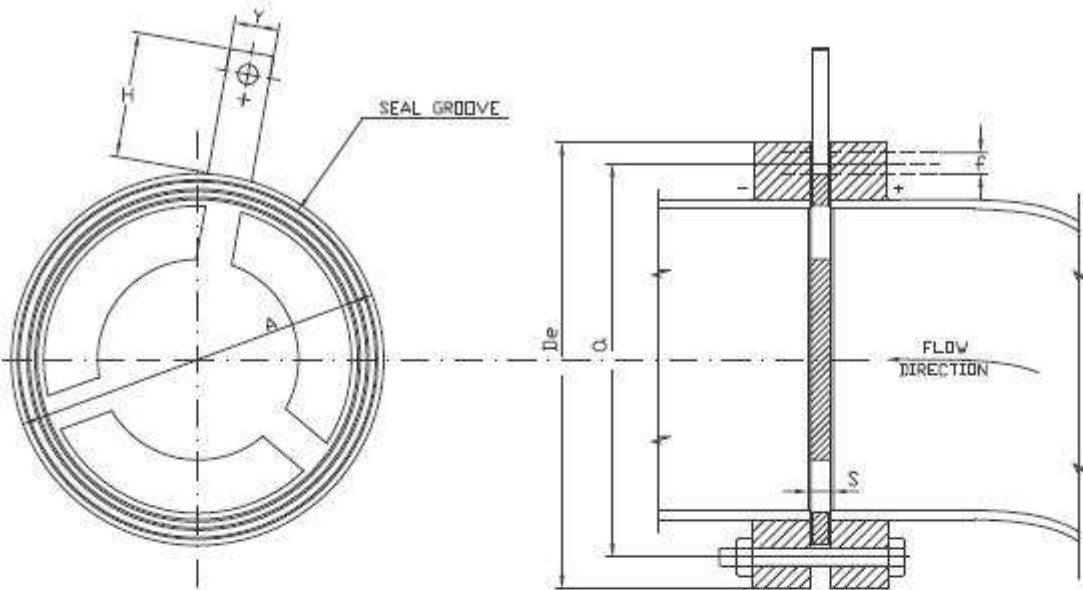
## ANNULAR CHAMBERS DIMENSIONAL DRAWING



ND	S	FLANGE NP 6 UNI 2276						FLANGE NP 10 UNI 2276					FLANGE NP 16 UNI 2276				
		$\alpha$	De	f	N <sup>holes</sup>	A	$\alpha$	De	f	N <sup>holes</sup>	A	$\alpha$	De	f	N <sup>holes</sup>	A	
32	60	90	120	14	4	76	100	140	18	4	82	100	140	18	4	82	
40	60	100	130	14	4	86	110	150	18	4	92	110	150	18	4	92	
50	60	110	140	14	4	96	125	165	18	4	107	125	165	18	4	107	
65	60	130	160	14	4	116	145	185	18	4	127	145	185	18	4	127	
80	60	150	190	18	4	132	160	200	18	4	142	160	200	18	8	142	
100	60	170	210	18	4	152	180	220	18	8	162	180	220	18	8	162	
125	60	200	240	18	8	182	210	250	18	8	192	210	250	18	8	192	
150	60	225	265	22	8	207	240	285	22	8	218	240	285	22	8	218	
175	60	255	295	22	8	237	270	315	22	8	248	270	315	22	8	248	
200	60	280	320	22	8	262	295	340	22	8	273	295	340	22	12	273	
250	60	335	375	22	12	317	350	395	22	12	328	355	405	25	12	330	
300	60	395	440	22	12	373	400	445	22	12	378	410	460	25	12	385	
350	60	445	490	25	12	423	460	505	22	16	438	470	520	25	16	445	
400	60	495	540	25	16	473	515	565	25	16	490	525	580	30	16	495	
450	60	550	595	30	16	528	565	615	25	20	540						
500	60	600	645	30	20	578	620	670	25	20	595						

	CALIBRATED ORIFICE FOR FLANGE NP 6-10-16	FORG. SHEET 01 OF 01 ENTZ. ISSUED 0
		REVIS. 0 _ _ _ _ _ N° FILE FILE NUMBER I_026_00

## ARECO DIMENSIONAL DRAWING



**MATERIALS**  
 DISK - STAINLESS  
 FLANGE - CARBON STEEL

ND	S	H	Y	FLANGE NP 6 UNI 2276					FLANGE NP 10 UNI 2276					FLANGE NP 16 UNI 2276				
				a	De	F	N <sup>holes</sup>	A	a	De	F	N <sup>holes</sup>	A	a	De	F	N <sup>holes</sup>	A
80	4	130	40	150	190	18	4	132	160	200	18	4	142	160	200	18	8	142
100	4	130	40	170	210	18	4	152	180	220	18	8	162	180	220	18	8	162
125	4	130	40	200	240	18	8	182	210	250	18	8	192	210	250	18	8	192
150	4	130	40	225	265	18	8	207	240	285	22	8	218	240	285	22	8	218
175	4	130	40	255	295	18	8	237	270	315	22	8	248	270	315	22	8	248
200	4	130	40	280	320	18	8	262	295	340	22	8	273	295	340	22	12	273
250	4	130	40	335	375	18	12	317	350	395	22	12	328	355	405	25	12	330
300	4	130	40	395	440	22	12	373	400	445	22	12	378	410	460	25	12	385
350	6	150	50	445	490	22	12	423	460	505	22	16	438	470	520	25	16	445
400	6	150	50	495	540	22	16	473	515	565	25	16	490	525	580	30	16	495
450	6	150	50	550	595	22	16	528	565	615	25	20	540					
500	6	150	60	600	645	22	20	578	620	670	25	20	595					
600	8	150	60	705	755	25	20	680	725	780	30	20	695					
700	8	150	60	810	860	25	24	785										
800	8	165	70	920	975	30	24	890										
900	8	165	70	1020	1075	30	24	990										
1000	10	165	70	1120	1175	30	28	1090										
1100	10	165	70	1220	1275	30	28	1190										
1200	10	165	70	1320	1375	30	32	1290										

**RA SYSTEM**

CALIBRATED ORIFICE "ARECO"  
 FOR FLANGE NP 6-10-16

FORM SHEET	01	OF	01	REV. ISSUED	0
REVIS.	0	-	-	-	-
N° FILE	I_024_00				
FILE NUMBER	I_024_00				