



DETAIL OF PEDALS.

STATISTICAL DATA

Important note regarding these dimensions: the change of pitch in 1889 from the old Boston pitch (around 450 Hz) to the international pitch of 435 Hz meant downpitching by 60 cents, about 2/3 of a half-tone (HT). Most larger pipes were lengthened, and small pipes were moved by 1 HT and then trimmed by the approximately 1/3 of a HT required. On several Diapason stops, original tuning slots were soldered shut or simply rolled back and burnished tight. On stopped wooden pipes usually the stoppers were just pulled up. The organ is now at A440. Considering this confusion, the raw data of measured pipe dimensions would be rather useless for any comparison or even reconstruction. All dimensions given here are therefore modified to the values that apply at A440. While all pertinent dimensions have been recorded, only the c-diameters are given here. The metal pipes are made from hand-planed 25% metal (lead with 24.9% tin and 0.07% Antimony, 0.06% Copper and 0.05% Bismuth) or Belgian zinc, 3'f—with only a few exceptions—is the largest pipe of 25% material. All wood pipes are from pine.

* front pipes with overlength

s slotted

f flue pipe (in reed stop)

GREAT	C	c ⁰	c ¹	c ²	c ³
Open Diapason 16'	308 ^{*s}	172 ^{*s}	95.0 ^s	54.0 ^s	31.5 ^s
	1/4 mouth				
Open Diapason 8'	190 ^s	94.0 ^s	54.0 ^s	32.5 ^s	21.0 ^s
	1/4 mouth				
Stopped Diapason 8' (wood)	107/139	60.0/73.0	37.0/75.0	25.5/50.0	15.5/30.5
	from c ¹ as "Doppelflöte"				
Viola da Gamba 8'	98.0 ^s	58.0 ^s	33.5 ^s	20.0 ^s	11.3 ^s
	from A, 25% metal				
	2/9 mouth				
Claribella 8' (wood)	125/155	80.0/93.0	45.0/53.0	27.5/31.5	16.8/20.6

GREAT CONT'D

	C	c ⁰	c ¹	c ²	c ³
Principal 4'	89.0 ^S	51.0 ^S	29.5	16.8	9.9
	1/4 mouth				
Flute Harmonique 4'	68.0 ^S	58.0 ^S	43.0 ^S	29.5	18.8
	from f ⁰ , overblowing with 2 holes				
	C-c ⁰ 2/9 mouth, from f ⁰ 1/4 mouth				
Twelfth 2-2/3'	59.0 ^S	34.0 ^S	19.4	11.2	7.2
	2/9 mouth				
Fifteenth 2'	53.0 ^S	31.6	19.4	10.7	6.4
	1/4 mouth				

MIXTURE III

C			2'	1-1/3'	1'
c ⁰	4'	2-2/3'	2'		
octave ranks 1/4 mouth, quint ranks 2/9 mouth					
4'			29.5	16.8	10.4
2-2/3'			19.4	11.2	6.9
2'	51.0 ^S	29.6	16.4	10.3	6.3
1-1/3'	33.6	19.4			
1'	29.6	16.6			

MIXTURE V

C			2	1-1/3	1	2/3	1/2
c ⁰			2-2/3	2	1-1/3	1	2/3
c ¹		4	2-2/3	2	1-1/3	1	
c ²	8	4	2-2/3	2	1-1/3		
c ³	8	5-1/3	4	2-2/3	2		

octave ranks 1/4 mouth, quint ranks 2/9 mouth

8'				30.5	17.3		
5-1/3'						10.4	
4'			29.8	16.8	10.2		
2-2/3'		33.8	19.3	11.4	6.7		
2'	51.0 ^S	30.6	17.3	10.4	6.4		
1-1/3'	34.0 ^S	19.3	11.2	6.8			
1'	29.4	16.5	10.3				
2/3'	19.3	11.4					
1/2'	15.5						

GREAT CONT'D	C	c ⁰	c ¹	c ²	c ³
Trumpet 16'	15.3/132 ⁵	12.5/122 ⁵	10.2/83.0 ⁵	9.7/64.0	7.9/48.0
Trumpet 8'	13.2/119 ⁵	10.7/84.0 ⁵	8.9/63.0	7.9/46.0	14.3 ^f
Clarion 4'	9.2/85.0	8.7/63.0	7.7/48.0	15.3 ^f	9.7 ^f
SWELL	C	c ⁰	c ¹	c ²	c ³
Bourdon 16' (wood)	156/192	87.0/107	49.0/60.0	2.5/40.0	21.4/26.5
Open Diapason 8'	85.0/86.0 ⁵	90.0 ⁵	53.0	30.5	18.9
	C-B open, wood, rest metal 1/4 mouth				
Stopped Diapason 8' (wood)	105/138	61.0/74.5	37.0/43.5	25.5/30.0	16.5/20.9
Viol d'Amour 8'					
(= Bell Gamba)	130/67.0	71.0/34.5	43.0/22.5	25.5/13.3	13.8/8.8
Bells:					
	103	56.0	36.5	22.4	11.7
	1/5 mouth, tuning ears				
Principal 4'	82.0 ⁵	47.0 ⁵	26.7	15.3	9.6
	1/4 mouth				
Flute Octaviant 4'	68.0 ⁵	59.0 ⁵	45.0 ⁵	29.6	19.1
	from f ⁰ , overblowing with 2 holes C-c ⁰ 2/9 mouth, from f 1/4 mouth (this stop is almost identical to the Flute Harmonique 4')				
Violin 4'	68.0 ⁵	39.0 ⁵	24.9 ⁵	12.2	7.3
	1/5 mouth				
Twelfth 2-2/3' (from E. & G. G. Hook Opus 371)					
	59.0 ⁵	35.5 ⁵	20.4	12.4	6.3
	1/5 mouth				
Fifteenth 2'	46.5 ⁵	26.5	15.6	9.6	5.4
	1/4 mouth				

SWELL CONT'D

MIXTURE V (pipes marked "Sesq.")

C						$1-3/5$	$1-1/3$	$2/3$	$1/2$
c^0				2		$1-3/5$	$1-1/3$	$2/3$	
c^1			$2-2/3$	2		$1-3/5$	$1-1/3$		
c^2		4	$2-2/3$	2		$1-3/5$	$1-1/3$		
c^3	8	$5-1/3$	4	$2-2/3$	2	$1-3/5$	$1-1/3$		
all ranks $2/9$ mouth									

$8'$								16.1	
$5-1/3'$								11.5	
$4'$							15.6	9.6	
$2-2/3'$					17.4	10.8	6.5		
$2'$			27.3	15.3	9.4	5.6			
$1-3/5'$	39.5 ^S	22.5	13.3	8.2					
$1-1/3'$	31.4	17.6	10.8	6.4					
$1'$	21.5	16.2	9.7						
$2/3'$	17.6	10.7							
$1/2'$	15.3								

Trumpet $16'$ (from c^0) $12.7/125^S$ $10.2/86.0^S$ $9.2/63.0$ $7.7/48.0$

Cornopean $8'$ $12.2/158^S$ $10.2/111^S$ $9.2/83.0^S$ $8.1/65.0$ 14.5^f
from c^2 harmonic

Oboe $8'$ $13.2/37.0$ $10.2/28.0$ $8.7/21.0$ $7.4/15.0$ $6.8/10.7$

Bells:

92.0 66.0 51.0 39.0 32.0
 $c^3 = 14.0^f$

Clarion $4'$ $10.2/84.0$ $9.2/64.0$ $7.7/49.0$ 14.8^S 9.4^f

Vox Humana $8'$ 38.0 35.0 31.5 29.5 29.5

Overall resonator lengths:

293 215 142 87.0 77.0
 $c^3 = 13.5^f$

long boots from c^0 (c^0 628, c^1 484, c^2 391, c^3 255)

SOLO
Philomela $8'$ (wood) $124/155$ $71.0/80.0$ $37.0/47.5$ $25.7/53.0$ $16.8/33.1$
from f^1 overblowing (two overblow holes) with double mouth

PIPE FROM THE FAMOUS
VOX HUMANA B' (IT'S
REALLY QUITE DRO-
NARY!). NOTE REVERSE
ANGLE OF SHALLOT.



SOLO CONT'D	C	c ⁰	c ¹	c ²	c ³
Salicional 8'	91.0 ⁵	54.0 ⁵	32.5 ⁵	19.9 ⁵	12.4
	2/9 mouth				
Hohl Pfeife 4' (wood C-b ¹)	54.0/102	36.0/66.0	22.0/43.0	28.0	18.7
	C-b ¹ stopped, double mouths ("Doppelflöte")				
Piccolo 2' (wood C-g ²)	40.0/47.0	23.9/28.1	14.1/15.8	9.0/10.4	6.6
Tuba 8'	13.3/168 ⁵	11.2/122 ⁵	9.7/80.0	8.0/62.0	7.9/48.0
	from c ² harmonic				
Corno Inglese 8' (Oboe shape)	13.0/38.0	10.7/30.0	8.8/20.8	7.3/15.0	6.6/10.7
Bells:					
	86.0	66.0	50.0	38.0	31.5
CHOIR	C	c ⁰	c ¹	c ²	c ³
Æolina & Bourdon 16' (C-B stopped wood)					
	140/163	114 ⁵	61.0 ⁵	34.5 ⁵	19.2
	mouth between 1/4 and 2/9				
Open Diapason 8'	175 ⁵	86.0 ⁵	50.0 ⁵	31.0	17.9
	1/4 mouth				
Melodia 8' (wood)	128/155	68.0/84.0	40.0/46.0	22.9/25.0	15.8/16.3
Keraulophone 8	120 ⁵	69.0 ⁵	39.5 ⁵	21.9 ⁵	12.2 ⁵
	1/5 mouth				
	narrow slots, starting 3/4 dia. from top of pipe				
Dulciana 8'	115 ⁵	61.0 ⁵	35.0 ⁵	18.4 ⁵	11.7 ⁵
	1/4 mouth				
Flauto Traverso 4' (wood)	68.0/81.0	39.5/48.0	23.5/29.6	15.7/19.6	9.4/12.3
	from g ⁰ harmonic, 2 overblow holes				
Violin 4' (Bell Gamba)	709/20.9	44.0/13.7	26.8/9.4	14.8/5.1	8.9 (cyl.)
Bells:					
	54.0	40.0	6.5	15.3	

CHOIR CONT'D

	C	c ^o	c ^e	c ²	c ³
Piccolo 2' (C-g# ³ wood)	40.0/45.0	26.7/33.0	17.5/21.1	10.6/14.6	9.4

Mixture III

C			2	1-1/3	1
c ⁴		2-2/3	2	1-1/3	
c ²	4	2-2/3	2		

octave ranks 1/4 mouth, quint ranks 2/9 mouth

4'				14.6	9.4
2-2/3'			16.2	9.8	5.8
2'	46.05	26.0	14.3	9.0	5.3
1-1/3'	28.7	16.2	10.0		
1'	26.0	15.1			

Clarinet 8' (cylindrical with short, movable bells)

43.0	35.0	29.5	22.0	16.0 ^f
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Bells:

92.0	68.0	56.0	44.0
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(C from unknown source, c^o-b² from E. & G. G. Hook Opus 371)

PEDALE

	C	c ^o	c ⁴
Open Diapason 16' (wood)	357/399	183/211	100/114

Violone 16' (wood)	140/140	83.0/84.0	51.0/51.0
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Bourdon 16' (wood)	217/253	128/148	71.0/82.0
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Quinte 10-2/3' (stopped wood)	155/179	90.0/106	54.0/65.0
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Violoncello 8' (Bell Gamba)	130/35.0	70.0/19.4	44.0/12.8
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Bells:

130	72.0	43.0
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1/5 mouth

Flute 8' (wood)	153/175	90.0/106	52.0/65.0
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Posaune 16' (wood)	221/221	143/143	82.0/82.0
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