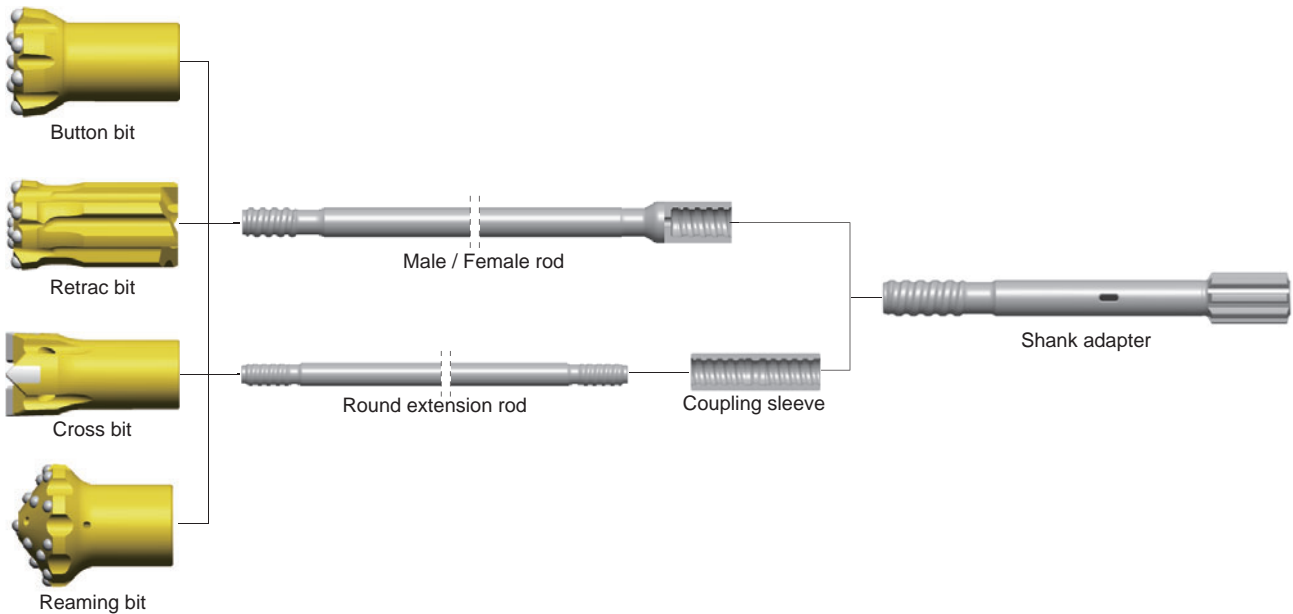


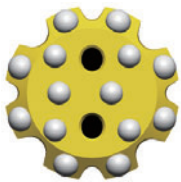
# BENCH & LONG HOLE DRILLING EQUIPMENT

## T45 (1 3/4") SERIES (Recommended gauge diameter $\phi 70\sim\phi 115$ )



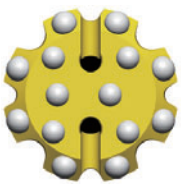
Standard item list - CUSTOM BUTTONS AND FLUSHING CONFIGURATIONS ARE AVAILABLE UPON REQUEST  
For details of bit design, please refer to p.20

### Button bit Type 15



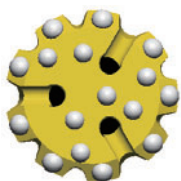
Gauge diameter		Gauge angle [°]	Button x Button dia.[mm]		Flushing hole		Weight [Kg]	Part number
[mm]	[in]		Gauge	Face	Side	Face		
70	2 3/4"	35	8x11	4x11	-	2	1.9	45MPVS70R15M
70	2 3/4"	40	8x11	5x10	-	2	1.9	45MPVS70R15H
76	3"	35	8x12	4x11	-	2	2.3	45MPVS76R15M
76	3"	40	8x11	5x11	-	2	2.3	45MPVS76R15H
89	3 1/2"	35	8x13	6x12	-	2	3.8	45MPVS89R15M
89	3 1/2"	40	8x12	6x12	-	2	3.8	45MPVS89R15H
102	4"	35	8x14	6x13	-	2	4.4	45MPVS102R15M
102	4"	40	8x13	6x13	-	2	4.4	45MPVS102R15H

### Button bit Type 25



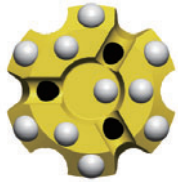
Gauge diameter		Gauge angle [°]	Button x Button dia.[mm]		Flushing hole		Weight [Kg]	Part number
[mm]	[in]		Gauge	Face	Side	Face		
89	3 1/2"	35	8x13	6x12	-	2	3.7	45MPVS89R25M
102	4"	35	8x14	6x13	-	2	4.3	45MPVS102R25M
115	4 1/2"	35	8x14	7x13	-	2	6.3	45MPVS115R25M

### Button bit Type 23



Gauge diameter		Gauge angle [°]	Button x Button dia.[mm]		Flushing hole		Weight [Kg]	Part number
[mm]	[in]		Gauge	Face	Side	Face		
89	3 1/2"	35	9x12	6x12	-	3	3.8	45MPVS89R23M
102	4"	35	9x13	6x13	-	3	4.4	45MPVS102R23M
115	4 1/2"	35	9x13	7x13	-	3	6.4	45MPVS115R23MS

## Button bit Type 53 & 55



Type 53 (φ70-φ89)



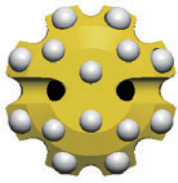
Type 55 (φ76-φ115)

Gauge diameter		Gauge angle [°]	Button x Button dia.[mm]		Flushing hole		Weight [Kg]	Part number
[mm]	[in]		Gauge	Face	Side	Face		
70	2 3/4"	35	6x11	4x11	-	3	1.8	45MPVS70R53M
76	3"	35	6x12	4x11	-	3	2.2	45MPVS76R53M
76	3"	35	8x11	5x11	-	4	2.3	45MPVS76R55M
89	3 1/2"	35	6x13	5x12	-	3	3.6	45MPVS89R53M
89	3 1/2"	35	8x12	6x12	-	4	3.7	45MPVS89R55M
102	4"	35	8x14	6x14	-	4	4.3	45MPVS102R55M
115	4 1/2"	35	8x14	8x14	-	4	6.3	45MPVS115R55M

## Button bit Type 83 & 85



Type 83 (φ70-φ76)

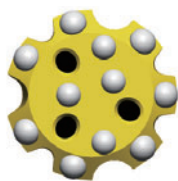


Type 85 (φ76-φ115)

Gauge diameter		* Gauge angle [°]	Button x Button dia.[mm]		Flushing hole		Weight [Kg]	Part number
[mm]	[in]		Gauge	Face	Side	Face		
70	2 3/4"	20-40	6x11	5x10	1	1	1.8	45MPWS70BB83H
76	3"	20-40	6x11	3x11, 2x10	1	1	2.2	45MPWS76BB83H
76	3"	20-40	8x11	6x10	2	2	2.3	45MPWS76BB85H
89	3 1/2"	20-40	8x12	6x12	2	2	3.6	45MPWS89BB85H
102	4"	20-40	8x12	7x12	-	2	4.3	45MPVS102BB85H
115	4 1/2"	20-40	8x14	8x12	-	2	6.3	45MPVS115BB85H

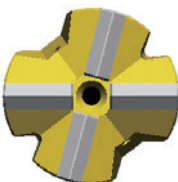
\* Face angle 20°, Gauge angle 40°

## Button bit Type 14



Gauge diameter		Gauge angle [°]	Button x Button dia.[mm]		Flushing hole		Weight [Kg]	Part number
[mm]	[in]		Gauge	Face	Side	Face		
70	2 3/4"	35	7x11	4x11	-	3	1.8	45MPVS70R14M
76	3"	35	7x12	4x11	-	3	2.3	45MPVS76R14M
89	3 1/2"	35	7x14	5x12	-	3	3.6	45MPVS89R14M
102	4"	35	7x14	5x13	-	3	4.3	45MPVS102R14M

## Cross bit

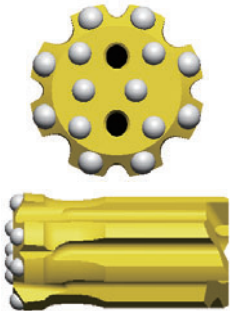


Gauge diameter		Carbide size W x H [mm]	Button x Button dia.[mm]		Flushing hole		Weight [Kg]	Part number
[mm]	[in]		Gauge	Face	Side	Face		
76	3"	13x22	-	-	4	1	2.5	45MXB76S2
89	3 1/2"	13x22	-	-	4	1	4.0	45MXB89S

# BENCH & LONG HOLE DRILLING EQUIPMENT

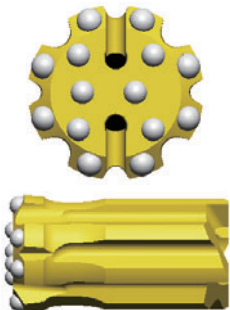
## T45 (1 3/4") SERIES (Recommended gauge diameter $\phi 76\sim\phi 115$ )

### Retrac Button bit Type 15



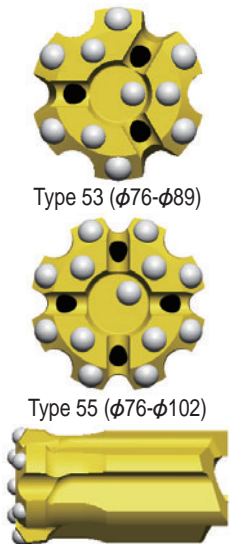
Gauge diameter		Gauge angle [°]	Button x Button dia.[mm]		Flushing hole		Weight [Kg]	Part number
[mm]	[in]		Gauge	Face	Side	Face		
76	3"	35	8x12	4x11	-	2	3.0	45MPVR76R15M
89	3 1/2"	35	8x13	6x12	-	2	4.5	45MPVR89R15M
102	4"	35	8x14	6x13	-	2	6.6	45MPVR102R15M

### Retrac Button bit Type 25



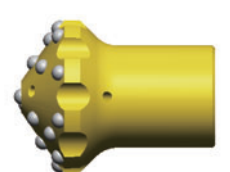
Gauge diameter		Gauge angle [°]	Button x Button dia.[mm]		Flushing hole		Weight [Kg]	Part number
[mm]	[in]		Gauge	Face	Side	Face		
89	3 1/2"	35	8x13	6x12	-	2	4.4	45MPVR89R25M
102	4"	35	8x14	6x13	-	2	6.5	45MPVR102R25M
115	4 1/2"	35	8x14	7x13	-	2	8.4	45MPVR115R25M

### Retrac Button bit Type 53 & 55



Gauge diameter		Gauge angle [°]	Button x Button dia.[mm]		Flushing hole		Weight [Kg]	Part number
[mm]	[in]		Gauge	Face	Side	Face		
76	3"	35	6x12	4x11	-	3	2.9	45MPVR76R53M
76	3"	35	8x11	5x11	-	4	3.0	45MPVR76R55M
89	3 1/2"	35	6x13	5x12	-	3	4.2	45MPVR89R53M
89	3 1/2"	35	8x12	6x12	-	4	4.5	45MPVR89R55M
102	4"	35	8x14	6x14	-	4	6.5	45MPVR102R55M
115	4 1/2"	35	8x14	8x14	-	4	8.4	45MPVR115R55M

### Reaming bit integration model



Gauge diameter		Gauge angle [°]	Button x Button dia.[mm]		Flushing hole		Weight [Kg]	Part number
[mm]	[in]		Gauge	Face	Side	Face		
127	5"	35	9x13	10x13	3	1	7.5	45MPJ127-D
152	6"	35	9x14	11x14	3	1	10.5	45MPJ152-D