KM DIAMOND
User/ Operator Course

KM Diamond Introduction

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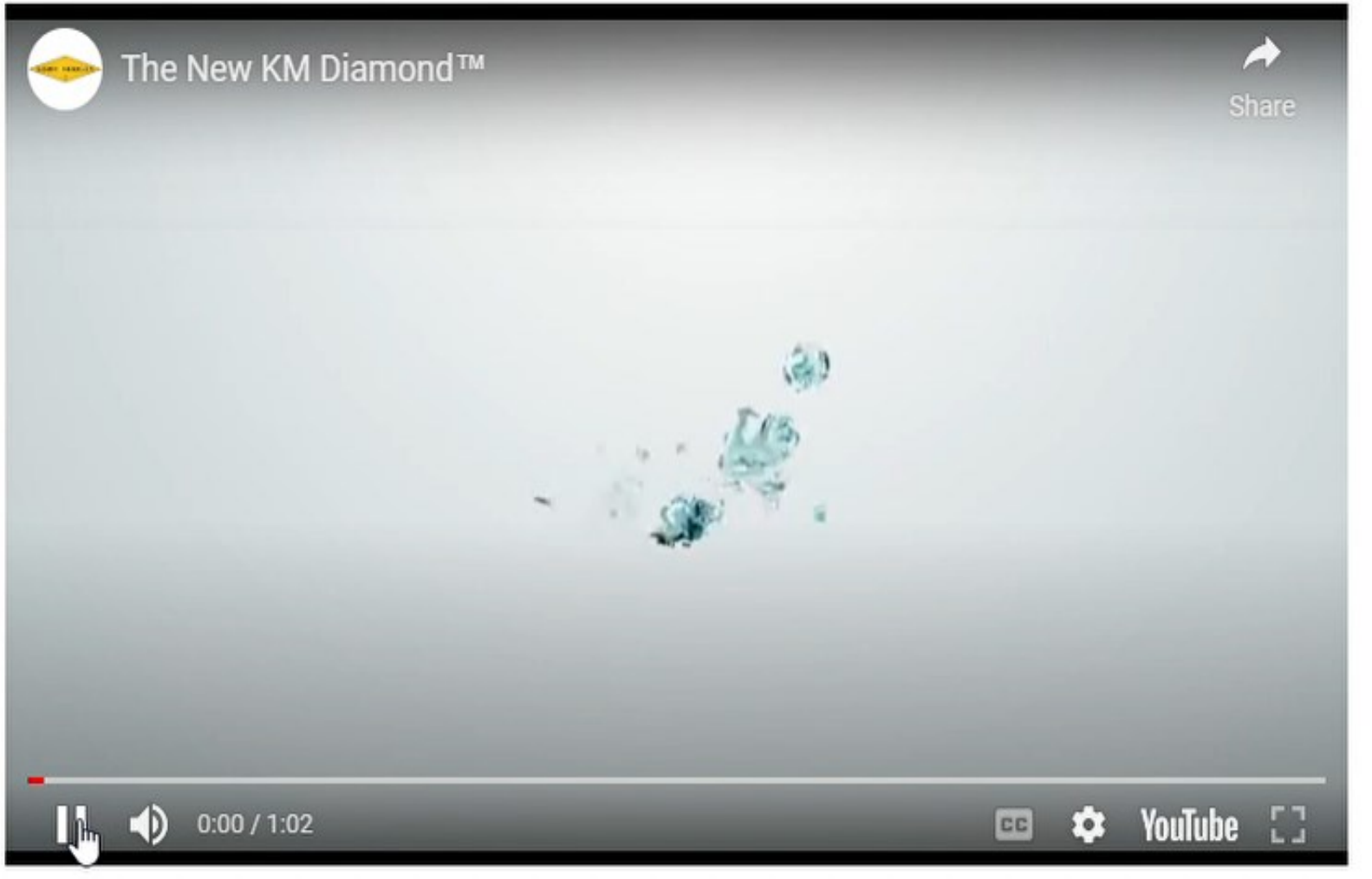
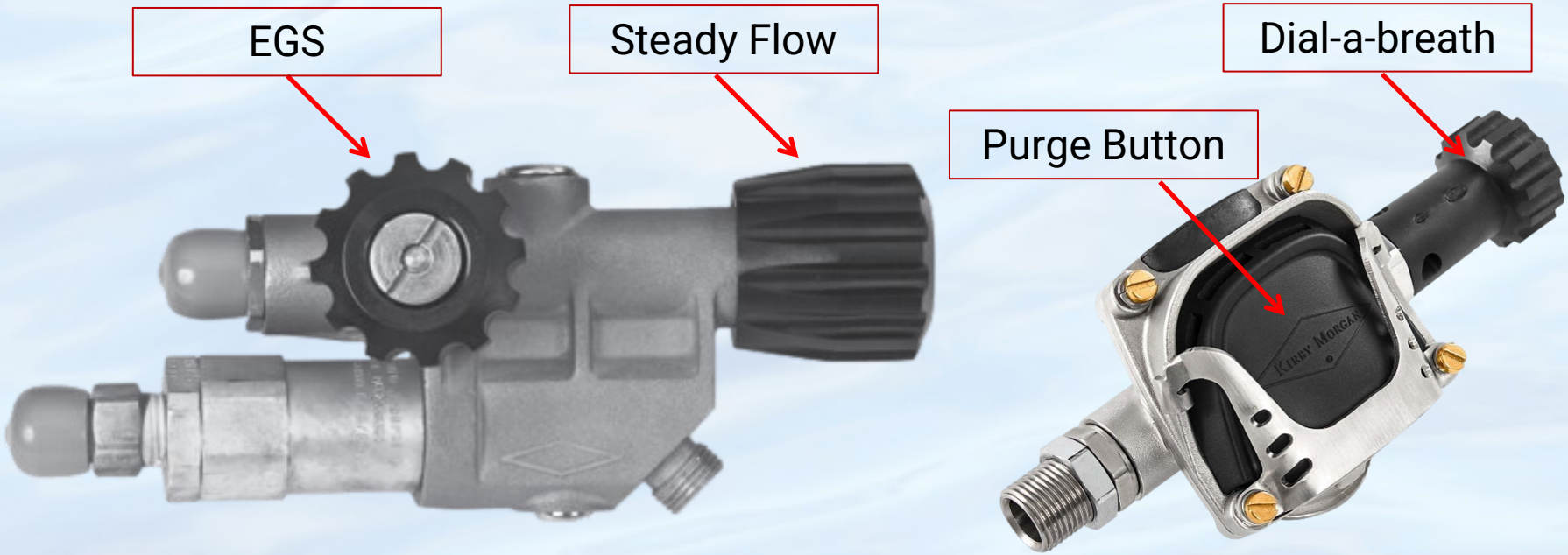


KM Diamond introduction

Divers trained in the use of previous Kirby Morgan Helmets; i.e., KM 27, 37, 47, 77, 97 or SL 17B helmets, will find that the KM Diamond has the breathing systems controls located in the same position and operates in the same manner



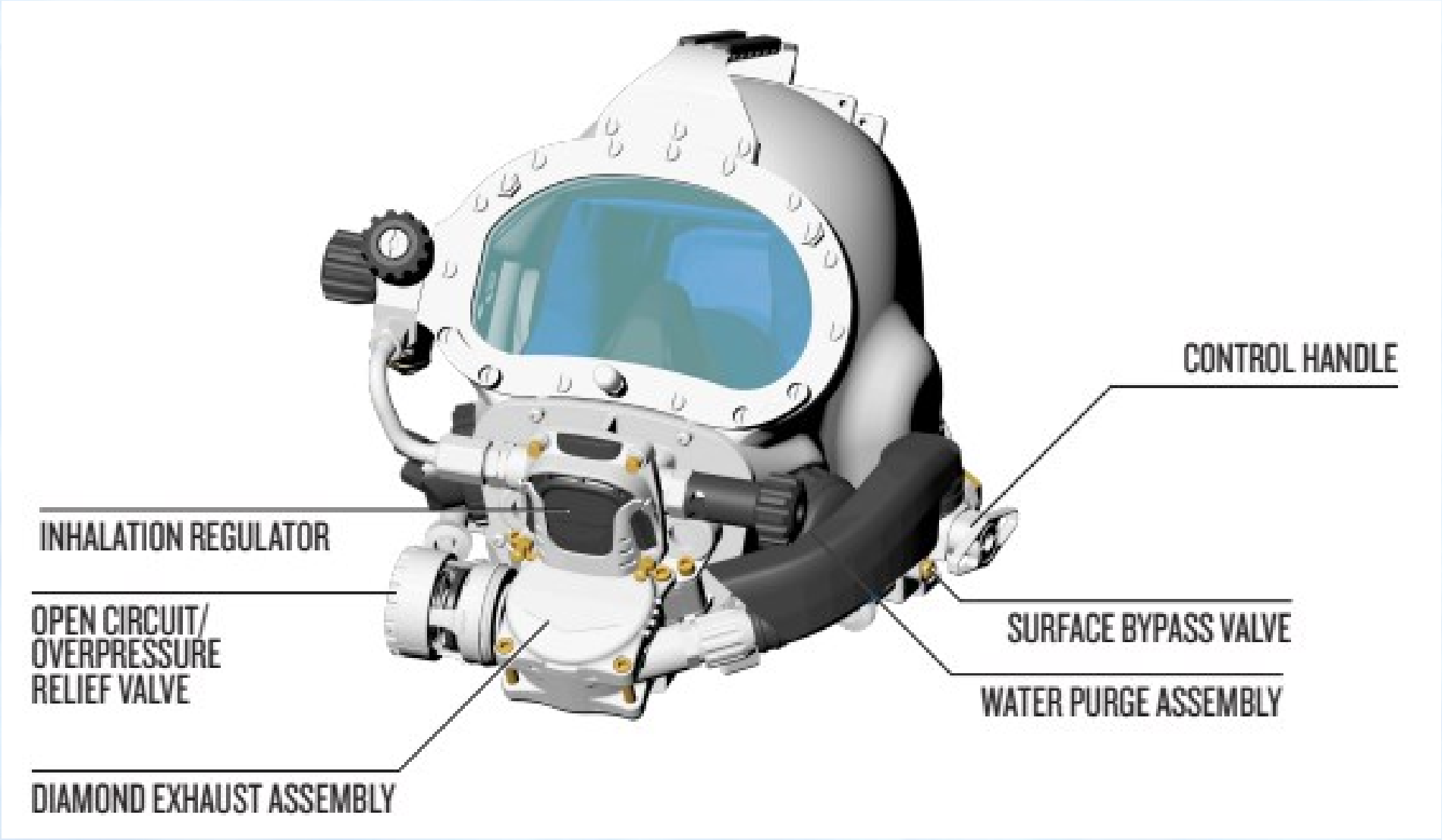
KM Diamond Introduction

- Divers trained in the use of previous “37 type” Kirby Morgan Helmets; i.e., KM 27, 37, 47, 77, 97 helmets, will find that dressing procedures (donning and doffing the helmet) are done in the same manner with the KM Diamond

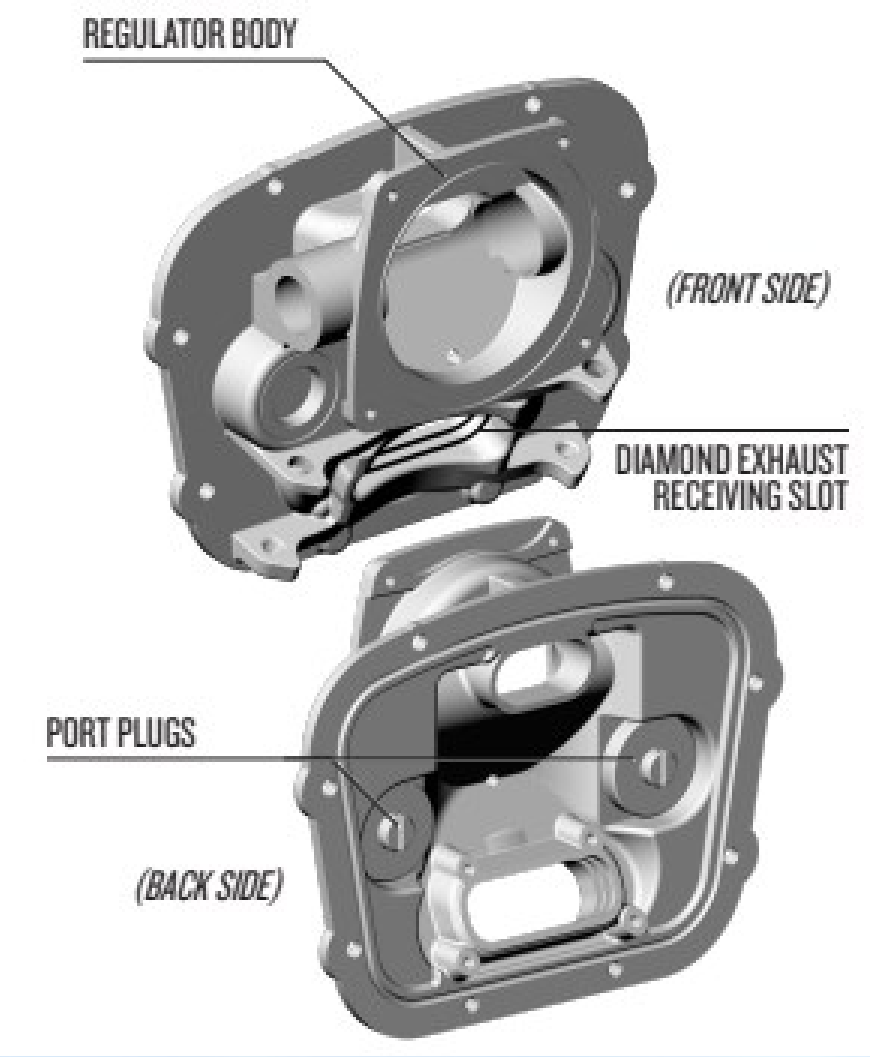
Diamond Features

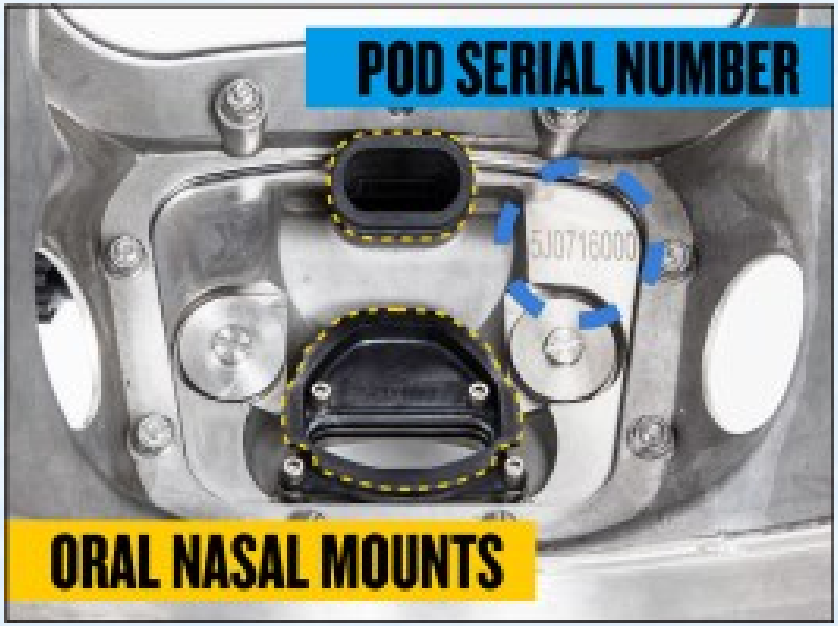
- Contaminant Protection
- Increased clarity with communications
- No disruptive bubbles in closed environments
- Operational savings (with gas reclaim systems)

Basic Systems Overview



Diamond Pod

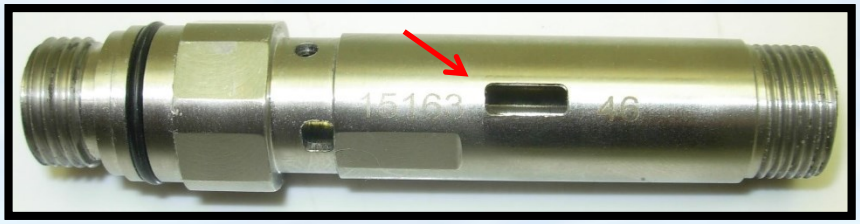




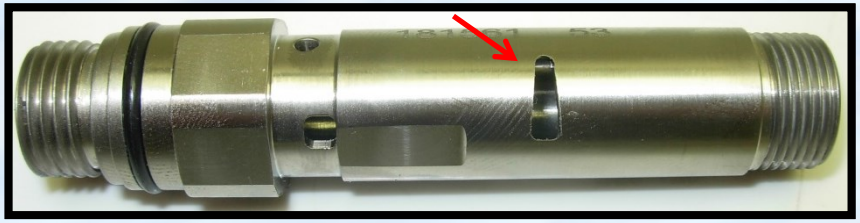
455 Regulator Body
cast into Pod assembly

Inhalation Regulator
Modified 455 SuperFlow

- Adjusts the same as a standard 455
- Diamond uses a modified 455 Main Tube
- Main tube is ***not*** interchangeable between models
- All other parts are the same



KM 97/455



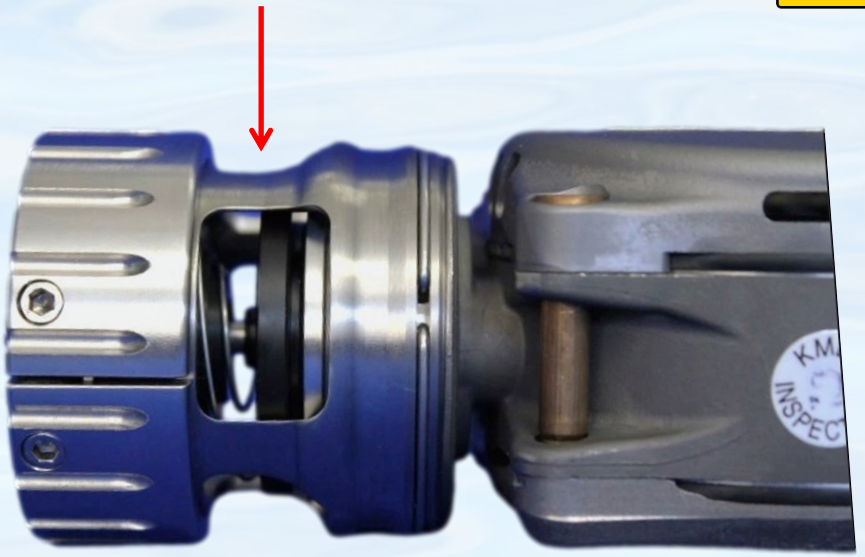
Diamond/455

Oral Nasal

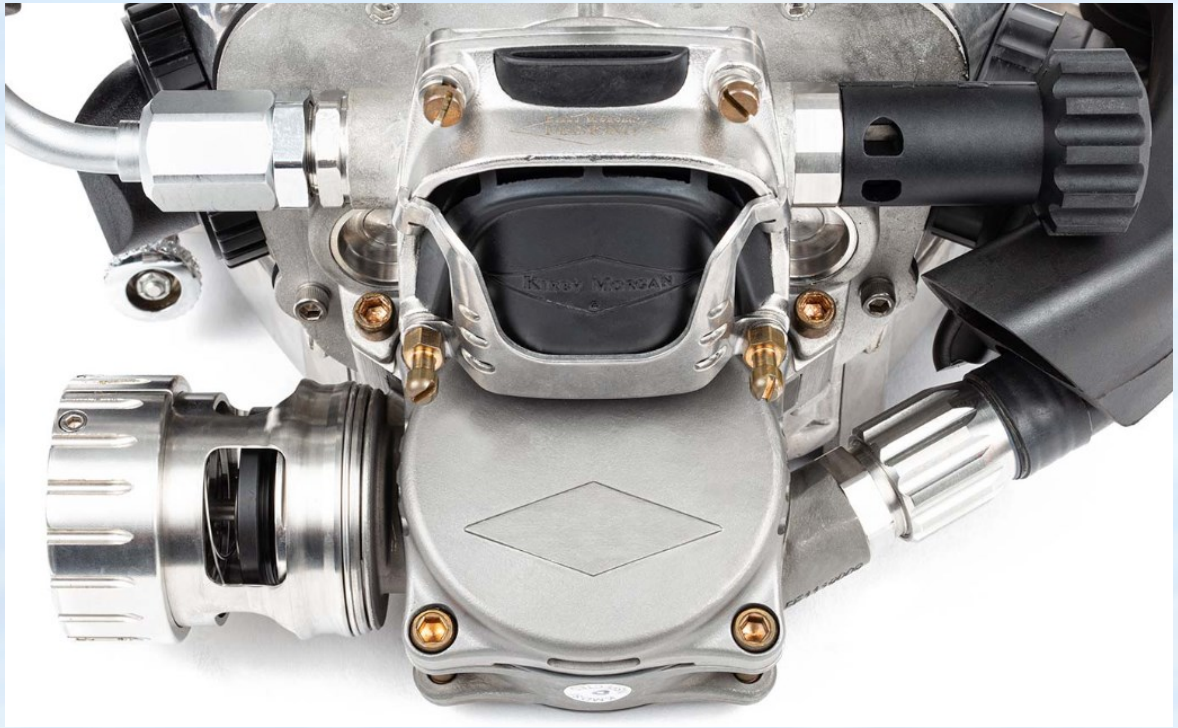
- Specific to Diamond
- Addition of Oral Nasal Insert to assist with CO2 reduction
- Is ***NOT*** interchangeable with other helmet models

Open Circuit/Over Pressure Relief Valve

- Serves as an over-pressure relief valve during normal operations
- Closed during normal operation
- Open valve to assist with ease of exhalation when switching to “open circuit” mode



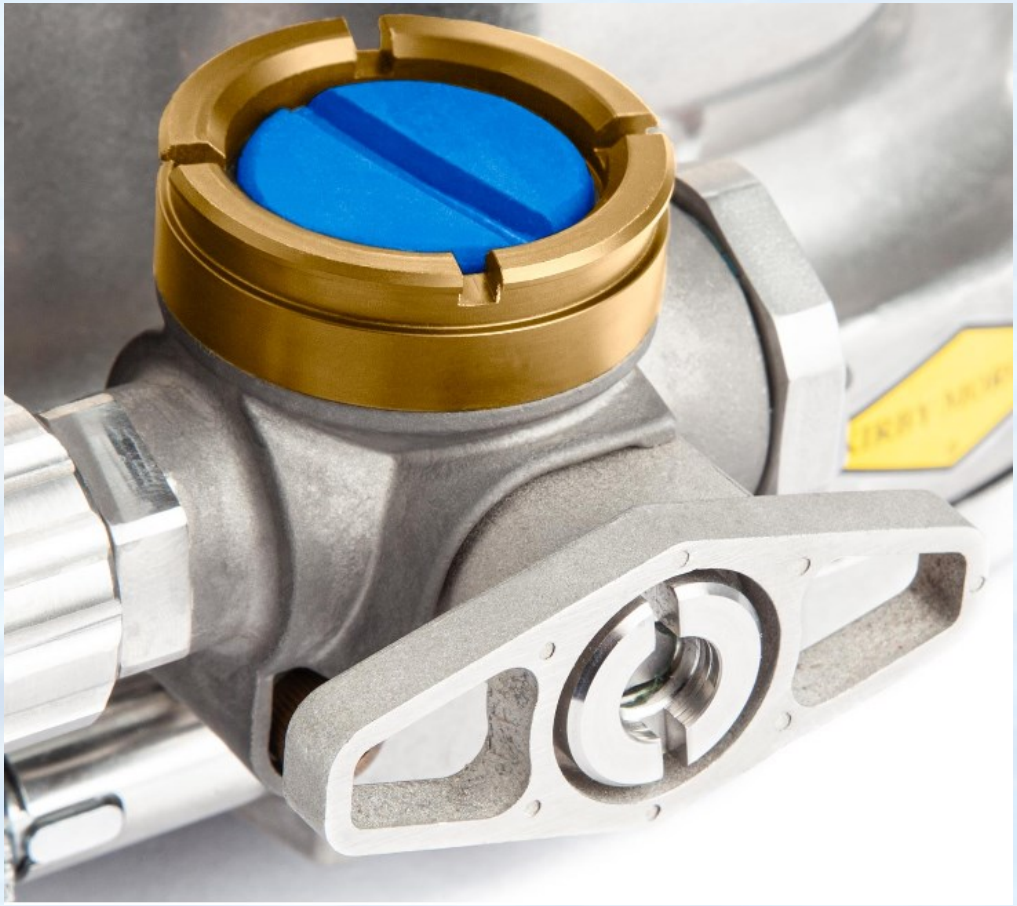
Exhaust Assemble Main Body



- Regulates exhaust from the helmet to the surface
- Works off a vacuum
- Potential to lock up if steady flow is not cracked during the first few feet of the diver descending

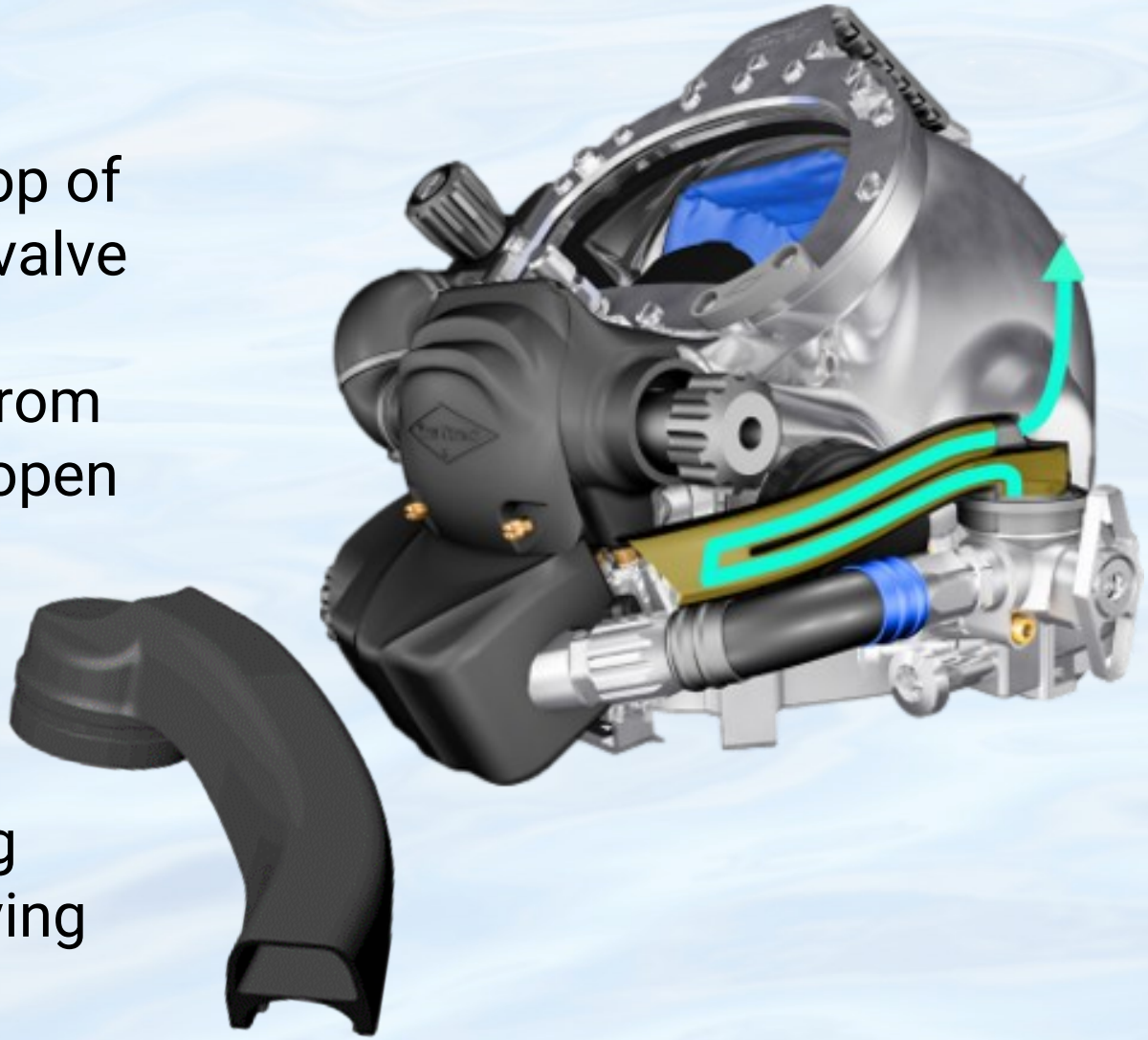
Surface Bypass Valve

- Allows the Diver to switch from closed circuit (no bubbles) to open circuit (bubbles)
- Quarter turn ball valve

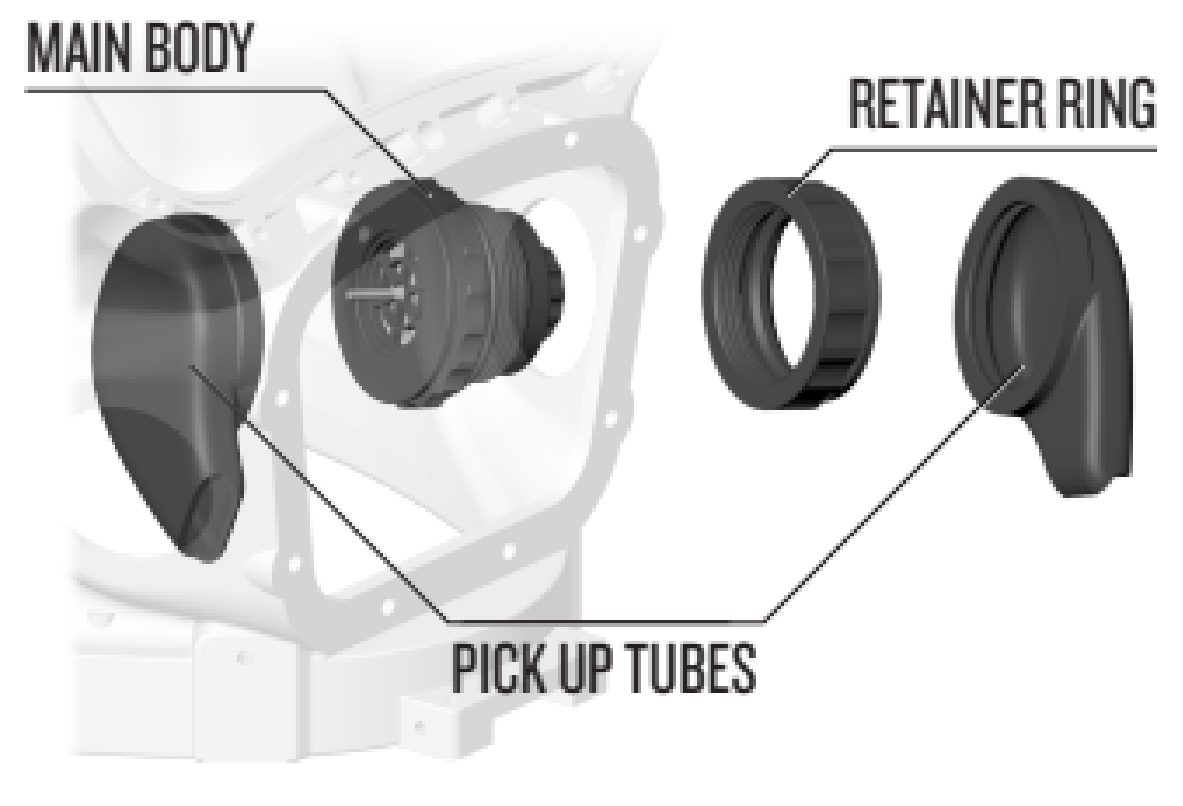


Bypass Equalizer Tube

- Traps a bubble on top of the surface bypass valve
- Prevents regulator from free-flowing during open circuit diving mode
- Provides greater protection from contaminates during hazardous water diving



Water Purge Assembly



- Allows for water to be expelled from helmet
- Located on left side of helmet
- Acts as a secondary pressure relief valve

Exhaust Hose

- Minimum 5/8” Inside Diameter
- Crush and kink resistant
- Rated working pressure of 120 psi
- 1/2” NPT hose fitting adapter is standard
- Additional adapter options:
  - 3/8” NPT hose fitting adapter
  - 1/2 Quick Connect
- Fort best performance, the return line umbilical length should be no longer than 300’ feet

Pre-Dive Procedures

Helmet should be pressure tested prior to the beginning of each diving day and includes:

1. Seal the helmet with an appropriate test plug in place of the neck damn assembly

2. Set to surface vent mode, close the over pressure relief

Surface Vent / NO Bubbles

Pre-Dive Procedures
(continued)

3. Add gas to the helmet using the Steady Flow Valve until gas escapes through Water Purge Assembly and OPRV. Close the Steady Flow Valve

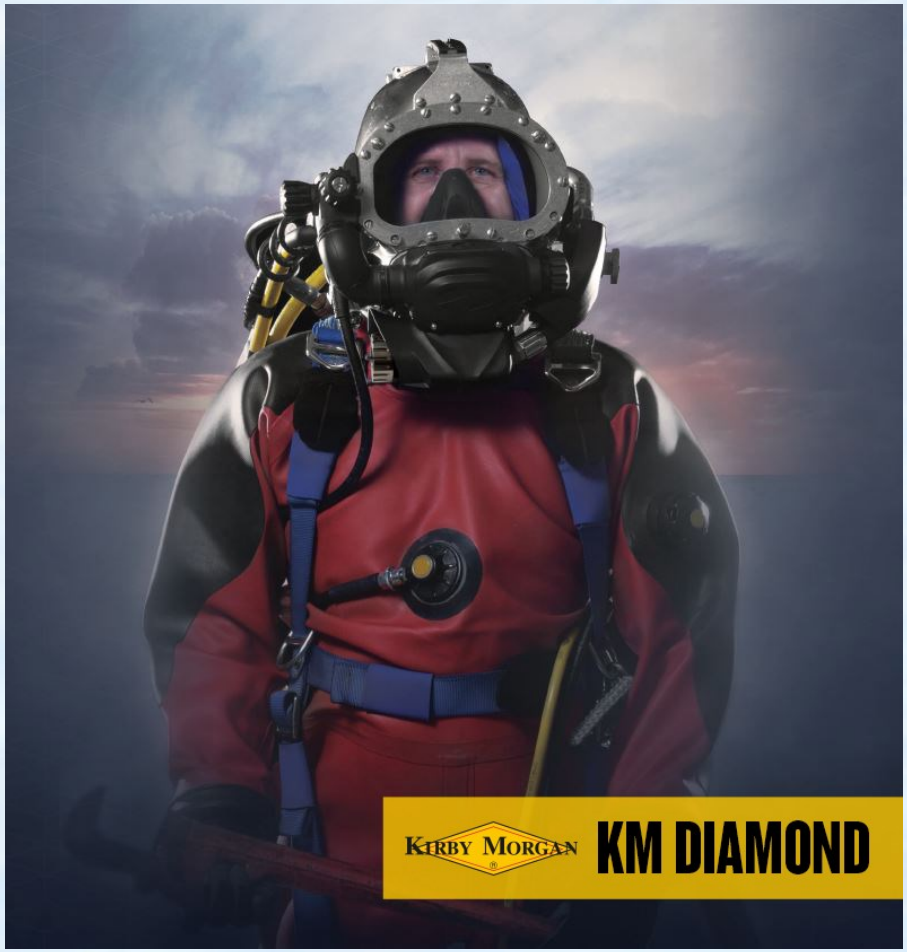
4. Immerse the helmet in water and check for escaping gas

Tender Responsibilities

- Confirm exhaust hose is secured properly to helmet
- Confirm open circuit/OPRV is shut
- Confirm surface bypass valve is in the surface vent (horizontal) position
- Ensure the Steady Flow Valve is slightly open for descent (Diver will close the Valve when on the bottom)

Diver Actions

- Breathe normally and cycle the surface bypass valve at least twice to become familiar with the operation of the Valve
- Ensure the Open Circuit/OPRV is closed (rotate clockwise all the way)
- Confirm exhaust hose is properly secured to helmet

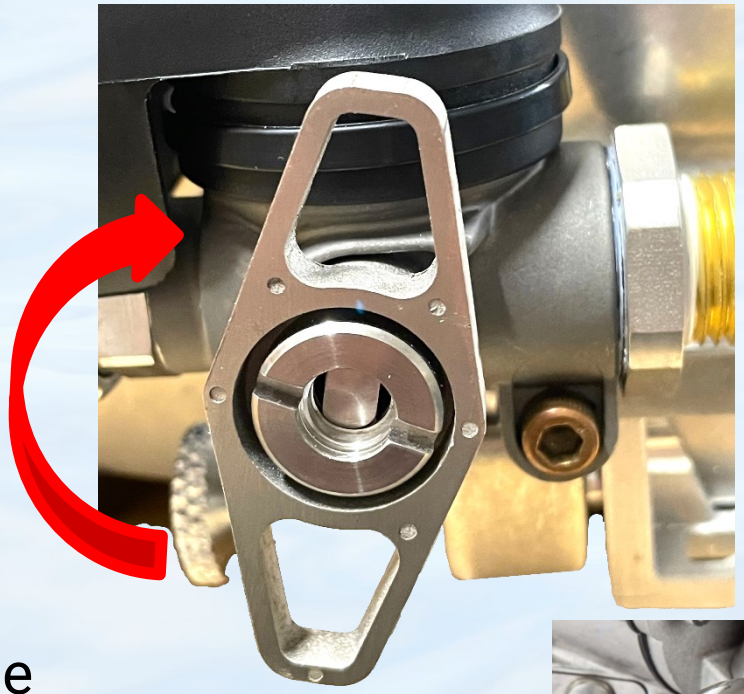


Diver Actions
(continued)

- Confirm water supply flow to the Side Block Water Shroud inlet (1-1.5GPM)
- Confirm outside pick up tube on Water Purge Assembly is secured and in correct position
- Open the Steady Flow Valve slightly and leave open until on the bottom

Emergency Procedures
(Return Line System Failure)

- Rotate the Surface Bypass Valve to the open circuit position (Valve Closed)
- Open the Open Circuit/OPRV by rotating the control knob counter clockwise
- Abort the Dive



Emergency Procedures (Flooding)

- Tilt helmet down and open the Steady Flow Valve
- Press on regulator purge button to clear water from oral nasal
- After clearing, cautiously check for additional flooding
- Abort dive if helmet continues to flood or if flooding occurred at any point in a hazardous environment

Back Pressure Requirements

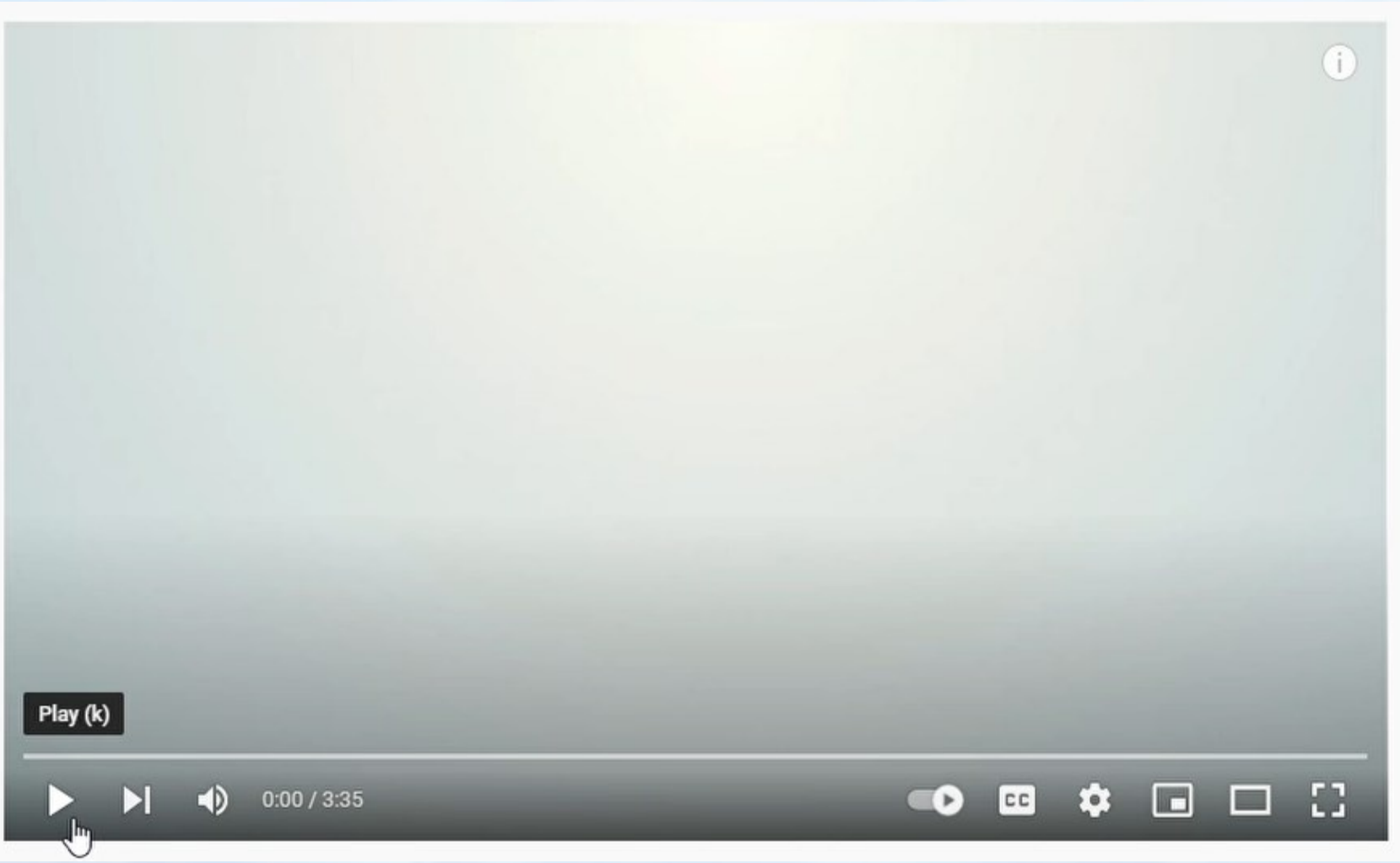
When diving at or deeper than 100 fsw or 30.48 msw, it is suggested to use a back pressure system to keep the helmet from activating and opening the water purge and over pressure relief valves

Post Dive and Storage

- Complete post dive procedures per the KM Post Dive Cleaning, Maintenance, and Inspection Checklist(A2.6)
- Completely dry helmet
- Store in a safe and dry place

Review

Click to play video



Questions?